TOSHIBA

Digital High Definition Receiver

HD-S25

OWNER'S MANUAL

DVB

DOLBY DIGITAL

PRECAUTIONS

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
TO PREVENT ELECTRIC SHOCK, DO NOT OPEN THE COVER.
REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

This unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the unit itself is in standby mode.

NOTE

The rating label and the safety caution are on the rear of the unit.

In order to continue to get the maximum performance from your receiver:
- Make sure that it is set up properly.
- Have it regularly inspected by qualified service personnel.
- Make sure that all family members learn to operate it properly.

In particular:
To prevent electric shock, instruct children not to insert objects into the receiver's holes or slots.

POWER CORD CAUTIONS

- When plugging in or unplugging the power cord, hold it by the plug. Do not unplug it by pulling on the cord.
- Do not touch the cord with wet hands as this could cause electrical shock or short.
- Do not place furniture, etc., on top of the power cord.
- Do not tie up the power cord, or connect a different power cord.
- Route the power cord so that it is not stepped on, or tripped over.
- Using a damaged power cord could result in fire or electric shock. Inspect the power cord for damage. If damaged, consult your nearest TOSHIBA service centre.

SAFETY MEASURES ON PROPER USAGE

Pay attention to the following items when using this unit. Failure to do so may result in electric shock or damage to the unit.
1. Connect the power plug to AC 100-240V 50/60Hz.
2. Unplug the power cord from the receiver before connecting any other equipment, especially the TV antenna. Connect all equipment to the receiver before plugging any power cords to the power source.
3. Be sure your TV antenna is not located near overhead power lines, or where it might fall into any power lines. Also be careful to avoid touching any such power lines when installing the TV antenna.
4. Do not attempt to modify the unit.
5. If you hear a strange sound or notice smoke coming from the unit or feel that the unit is too hot to touch, turn the power off immediately, unplug the power cord, and consult with your local sales outlet.
6. Do not drop metal objects, paper or liquids into the unit through the ventilation openings, etc. This may result in damage. In the event something is dropped inside, turn the power off, unplug the power cord and consult with your local sales

outlet.

7. Do not place objects that may block the ventilation openings of the unit, such as a piece of cloth.
8. Do not place vases, bottles, containers, naked flame sources such as lighted candles etc., on top of or near this unit.
9. When transporting, do not vibrate or shake the unit. This may result in damage or faulty operation.
10. If a three-prong power plug is provided with receiver, be sure it is used with a properly grounded three-wise power socket.
11. When transporting the unit, be sure to turn off the power and disconnect all cables.
12. When not using the unit for a long period of time (when on vacation, etc.) unplug the power cord.
13. Avoid overloading electrical outlets or extension cords otherwise it could result in electric shock or fire.
14. When lightning begins, do not touch any part of the receiver including the power cord and any connected cables.

DO NOT use or place the receiver in the following environments.
1. Near heat sources
   - Places subject to direct sunlight
   - Near radiators or air ducts
   - On top of an amplifier
2. Dusty places
3. Places subject to vibration or shock
4. Near strong magnetic fields such as loudspeakers or large motors
5. Places subject to moisture such as a kitchen or bathroom
6. Places without adequate air circulation
   - On top of a carpet or sofa
   - In a bookcase
   - Near materials such as curtains, etc.
7. Extremely hot or cold places
   The operating temperature range of this unit is 5°C to 40°C

NOTES ON HANDLING
1. Do not use insecticide sprays, etc., near the unit. Also, do not leave rubber or plastic objects in contact with the unit for long periods of time. This may cause discoloring of this unit's finish.
2. Keep the original packing that this unit came in and use it to re-pack the unit when moving or transporting.

MOISTURE CONDENSATION

Never operate this receiver immediately after moving it from a cold location to a warm location. After moving, leave the receiver in the warm location for TWO TO THREE hours without operating it so as to dry the moisture condensation naturally.

Moisture condensation is most likely to occur in the following cases:
- When moved from a cold location to a warm location.
- In a room rapidly heated or in a place where the receiver is directly exposed to cool flow of air from an air-conditioner or other electrical appliance.
- In a room with excessive dampness or high humidity.

PRECAUTIONS (continued)

NOTES ON POWER PLUGS

⚠️		This power plug is used in **Australia** only
⚠️		This power plug is used in some **other regions**
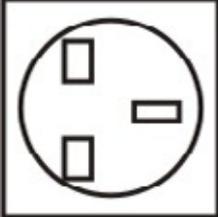
- **The diagrams above are strictly for illustration purposes only.**

- Only **one** power plug is included in the receiver's accessory box (page 55).

NOTES ON COPYRIGHT

It is forbidden by law to copy, broadcast, show, broadcast on cable and play in public copyrighted material without permission.

DISCLAIMER

This manual has been validated and reviewed for accuracy. The instructions and descriptions it contains are accurate for the HD-S25 receiver at the time of this manual's production. However, succeeding receivers and manuals are subject to change without notice. Toshiba assumes no liability for damages or injuries incurred directly or indirectly from errors, omissions or discrepancies between the receiver and the manual.

Welcome to the world of high definition picture and sound created by the TOSHIBA HD-S25 Receiver. In order to enjoy the many features this receiver has to offer, please read this owner's manual thoroughly before using.
Please record the serial number located on the back of the receiver in the following spaces.

Serial No: _____

TABLE OF CONTENTS

INTRODUCTION

Toshiba HD-S25 Digital High Definition Receiver opens up to a new world of free-to-air terrestrial HDTV (High Definition Television) and SDTV (Standard Definition Television) programs. The receiver can receive channels from both VHF and UHF bands. All the major terrestrial free-to-air station numbers currently available in your area are listed in the on-screen menu. To watch a channel, simply select the channel number and you will be accessing a wide range of high quality digital programs.

The receiver is fully MPEG 2 / DVB-T compliant, delivering high definition crystal-sharp video and Dolby® Digital sound. As it supports a channel frequency range of 51-858MHz, it can be easily programmed for all the channels within the VHF and UHF frequency bands. To find out the channel frequencies in your area, please contact your local service provider.

FEATURES

HD 1080i Capability
High Definition (HD) brings a wide-screen format to the home television as well as a sharper picture. This receiver corresponds with 1080i signal input and it fully recreates high definition screen quality.

Dolby® Digital[1]
Dolby® Digital is the surround sound technology used in theatres showing the latest movies, and is now available to reproduce this realistic effect in the home. You can enjoy motion pictures and live concert TV programs with this dynamic realistic sound by connecting HD-S25 receiver to a 6-channel amplifier equipped with a Dolby® Digital decoder.

Teletext/Fastext
Fastext is a method of viewing Teletext pages by related subjects grouped by the broadcast studio. You can access any given topic shown on the screen simply by pressing the corresponding colored text select button on the remote control. Note that the Fastext feature is not available in Australia.

PIP (Picture-in-Picture)
This feature gives you the ability to view 2 different channels at the same time. One program can be viewed on the main screen while the other is simultaneously displayed in a smaller viewing window, often positioned in one corner of the screen.

Still Picture Display
Allows you to take a snapshot of a video at a particular instant as a still picture.

Wide-screen Picture Format
Wide-screen is the term given to picture displays that have a wider aspect ratio than normal. For example, the aspect ratio for conventional TVs is 4:3 and for wide-screen TVs is 16:9. This receiver supports broadcasts in both formats.

Video Format Auto-Switch
The HD-S25 receiver has the capability of automatically switching the output video format to match the native video format as sent by the broadcaster.

AUX
For people having TVs with only one set of Component Video inputs, this "AUX" feature allows you to play your DVD movies via the "AUX INPUT" connectors located at the back of the HD-S25 receiver.

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[1] Manufactured under licence from Dolby Laboratories. Dolby and the double-D symbol are registered trademarks of Dolby Laboratories.

FRONT PANEL
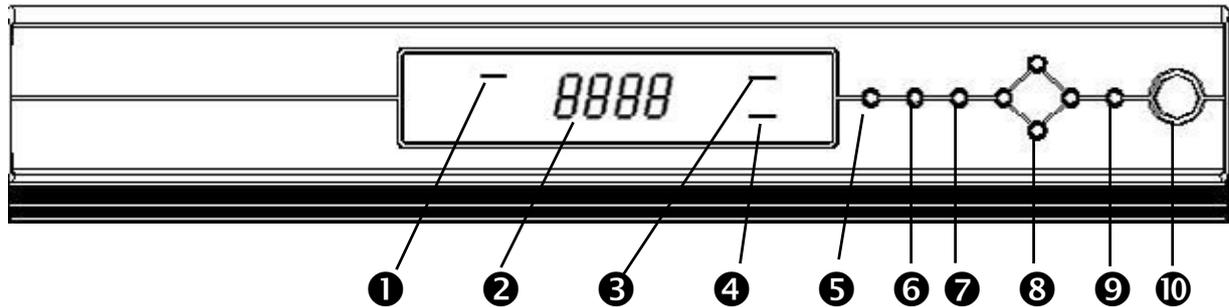
❶ **Red LED indicator**

ON: Receiver in power-on mode; OFF: Receiver in standby mode

❷ **Four-digit LED display**

- Shows "----" in standby mode
- Shows "8888" when time information is not available
- Shows "*INIT*" when the receiver is switching from standby to power-on mode
- Shows the local time, channel number or "*AUX*" in power-on mode
- Momentarily shows the new video format when changing the video format setting
- Momentarily shows "*rgb*" or "*YPbr*" when switching the MODE in the rear panel

❸ **Green LED indicator**

ON: Signal captured; OFF: No signal or receiver in standby mode

❹ **Orange LED indicator**

ON: Receiver in AUX mode; OFF: Receiver in non-AUX mode
Note: The orange LED is on whenever the receiver is in AUX mode, regardless the receiver is on or in standby mode. Please refer to AUX on page 43 for details.

❺ **MENU button**

Activate the On Screen Menu

❻ **EXIT button**

Exits from the Main Menu or returns to the Main Menu from submenu

❼ **ENTER button**

Select the highlighted menu or submenu item

❽ **Directional buttons**

- Move the selection focus on the screen
- Left and right buttons for increasing and decreasing audio volume
- Up and down buttons for channel up and down functions

❾ **V.FORMAT button**

Toggles among "PAL" (for MODE-Switch being set to YP_BP_R only), "AUTO", "1080i", "720p", and "576p" video output formats.

❿ **STANDBY/ON button**

Toggles the receiver between power-on and standby modes

REAR PANEL
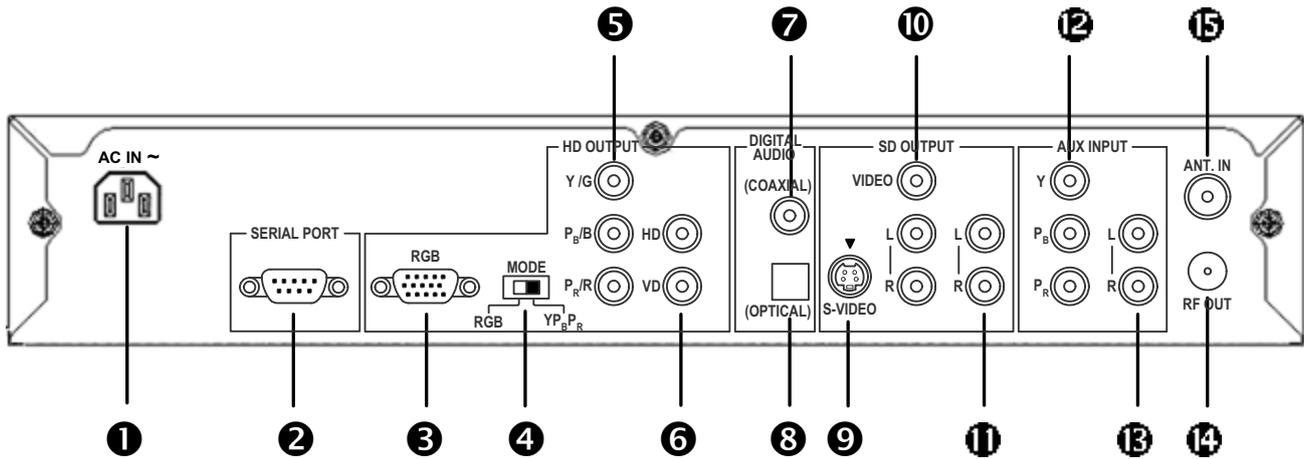
❶ AC MAINS SUPPLY

100~240 V_{AC}, 50/60 Hz

❷ SERIAL PORT

For connection to PC for software upgrade or to other external device for external control

❸ RGB (Mini D-Sub 15-pin) OUT

For connection to TV's Mini D-Sub 15-pin input

❹ MODE-Switch

To switch HD output mode between RGB and YP_BP_R

❺ YP_BP_R /RGB OUT

For connection to TV's YP_BP_R (component video) or RGB inputs, selectable via the MODE-Switch

❻ HD, VD OUT

Used together with ❺ RGB OUT, for connection to TV's RGBHV input

❼ DIGITAL AUDIO (COAXIAL) OUT

For coaxial connection to an amplifier equipped with a Dolby® Digital decoder

❽ DIGITAL AUDIO (OPTICAL) OUT

For optical connection to an amplifier equipped with a Dolby® Digital decoder

❾ S-VIDEO OUT

For connection to TV's S-Video input

❿ Composite VIDEO/L/R OUT

For connection to VCR or TV's Video/Audio L/ Audio R inputs

⓫ Audio L/R OUT

For connection to VCR or TV's Audio L/ Audio R inputs

⓬ YP_BP_R IN

For connection to external A/V equipment with component video outputs (e.g. DVD player)

⓭ Audio L/R IN

For connection to external A/V equipment with analogue audio outputs (e.g. DVD player), used together with ⓬ YP_BP_R IN

⓮ RF OUT

For connection to analogue TV's antenna input

⓯ ANT.IN

For connection to UHF/VHF antenna

REMOTE CONTROL

AUDIO (page 44)
Toggles between multi-lingual audio soundtracks

AUX (page 43)
Toggles the receiver's input between off-air and AUX.
(AUX is only available in YPBPR mode)

MUTE
Turns off the audio output

STANDBY/ON (page 7)
Switches the receiver between ON and STANDBY modes

Numeric buttons
Select TV programs or input numbers

VOL+/VOL-
Increases or decreases audio volume

TTX (page 41)
Views Teletext

CH▲ /CH▼
Provides channel up and down functions

RECALL (page 44)
Toggles between present and previous programs

CC (page 41)
Views Closed-caption

Directional buttons (page 7)
Move selection focus on the screen. Switch channels and adjust volume.

SLEEP (page 43)
Sets the receiver to sleep mode (auto-standby mode)

ENTER (page 7)
Selects the highlighted menu or submenu item

MENU (page 25)
Activates the On Screen Menu

EXIT (page 7)
Exits from a menu

INFO (page 38)
Displays I-Plate providing information about the current channel

LIST (page 39)
Displays the complete program list

EPG (page 39)
Calls up Electronic Program Guide

FAV. (page 40)
Displays the favourite channel list

COLOURED BUTTONS
4 coloured buttons for Fastext. From left to right: Red, Green, Yellow, Blue. The Green button is also used to set reminders in EPG.

V.FORMAT (page 42 & 50)
Toggles among "PAL", "AUTO", "1080i", "720p" and "576p" video formats through HD OUTPUT video connectors

FREEZE (page 41)
Freezes the picture on the main screen

PIP (page 40)
Shows multiple programs listed in the same DTV Network the receiver is tuned to and allows displaying the second program on the TV screen.

PIP.POS (page 40)
Shifts the PIP window positions

A.RATIO (page 42)
Adjusts the aspect ratio among "pillarbox", "letterbox" and "crop"

PIP.SWAP (page 40)
Swaps between Main Video window and PIP Video window

TOSHIBA
CT-90194

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Startup Guidance

Read this chapter first to make all necessary preparations.

- **Installing the receiver**
  - **Connections**
  - **Preparing your remote control**
  - **Setting up your receiver**
- **Viewing programs**
- **Turning off the receiver**

INSTALLING THE RECEIVER

Follow steps A to C below. Your receiver will be ready to display digital programs on your TV.

STEP A: CONNECTIONS

DO NOT PLUG THE RECEIVER INTO THE MAINS YET.

Before you use this receiver, it is necessary to connect it to your TV.

1. CONNECTING TO TV

### 1-1. Connection to Antenna

Disconnect the antenna cable from your TV and connect it to the "ANT.IN" terminal on the back of the receiver.

1-2. "RF OUT" Connection to TV or VCR

This "RF OUT" provides you a RF loop-through function to receive analogue TV programs as well as digital programs. Use an RF coaxial cable (not supplied) to connect the HD-S25 "RF OUT" terminal to TV's or VCR's antenna input.

⚠ Before connecting or disconnecting the antenna cable, turn off the receiver and antenna booster, if any.
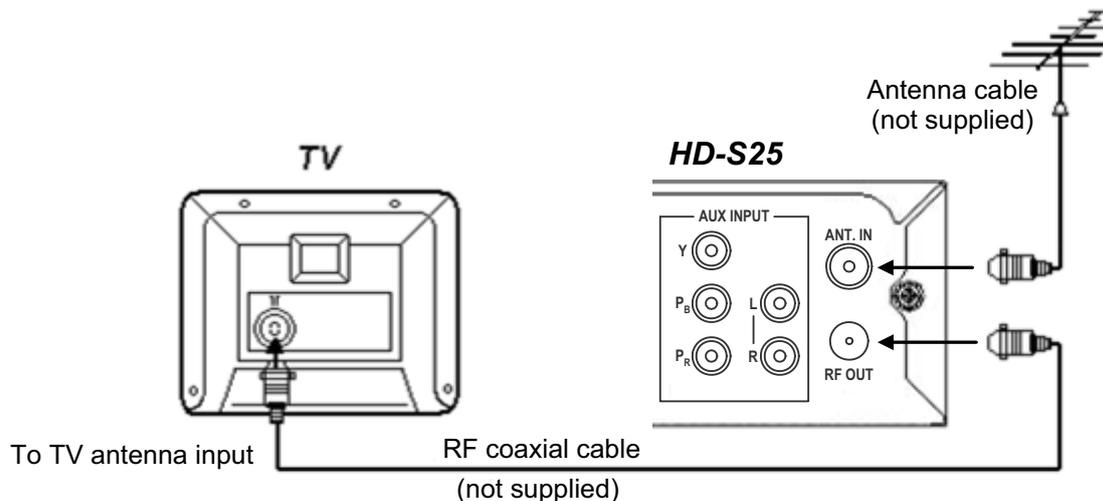
1-3. Connections to TV – Video Connection

In the accessory box, you will find two sets of cables: One is the component video cable (with red, green and blue connectors) and the other is the Audio/Video cable (with yellow, white and red connectors).

For better video quality, we recommend that you use the Mini D-Sub 15-pin cable or the RGBHV video cable (with 5 RCA connectors). Both of these cables are not included in the HD-S25 package.

You have 5 choices for connecting the video output from the receiver to your TV. Use only **one** of the following connections (with **(a)** or **(b)** being the **best** choice):

(a)   **Mini D-Sub 15-pin connection**: If your TV has a RGB Mini D-Sub 15-pin video input

connector, use a Mini D-Sub 15-pin cable (not supplied) to connect the receiver to your TV. Set the MODE-Switch (refer to page 8) to RGB, and then connect the RGB connector on the rear of the receiver to the corresponding socket on the TV.

Do not connect any PC monitor to the receiver via Mini D-Sub 15-pin cable.

Some HD-ready TV may not display some specific video format via Mini D-Sub 15-pin video connection. In this case, please press V.FORMAT button to change to an appropriate fixed format. (For more details, please refer to Appendix 2 System Setup Table in page 50).
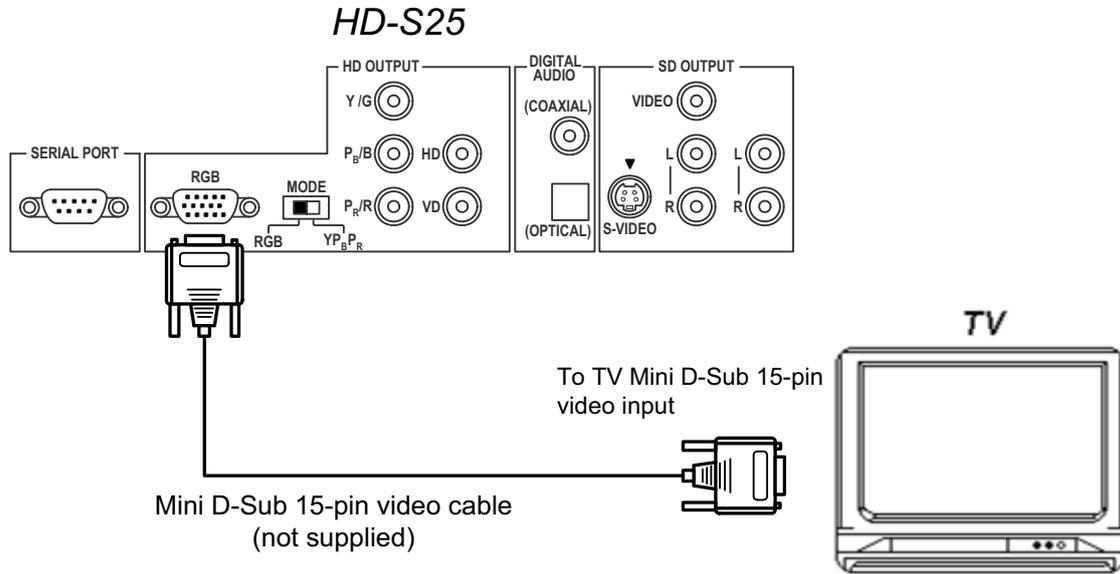

Note: This diagram illustrates video connections only. Please refer to Page 15 for Audio connection.

(b)   **RGBHV (RCA) connection**: If your TV has RGBHV video inputs, use a RGBHV video cable (not supplied) to connect the receiver to your TV. Set the MODE-Switch (refer to page 8) to RGB, and then connect the Y/G, P_B /B, P_R/R, HD and VD connectors from "HD OUTPUT" on the rear of the receiver to the corresponding jacks on the TV.
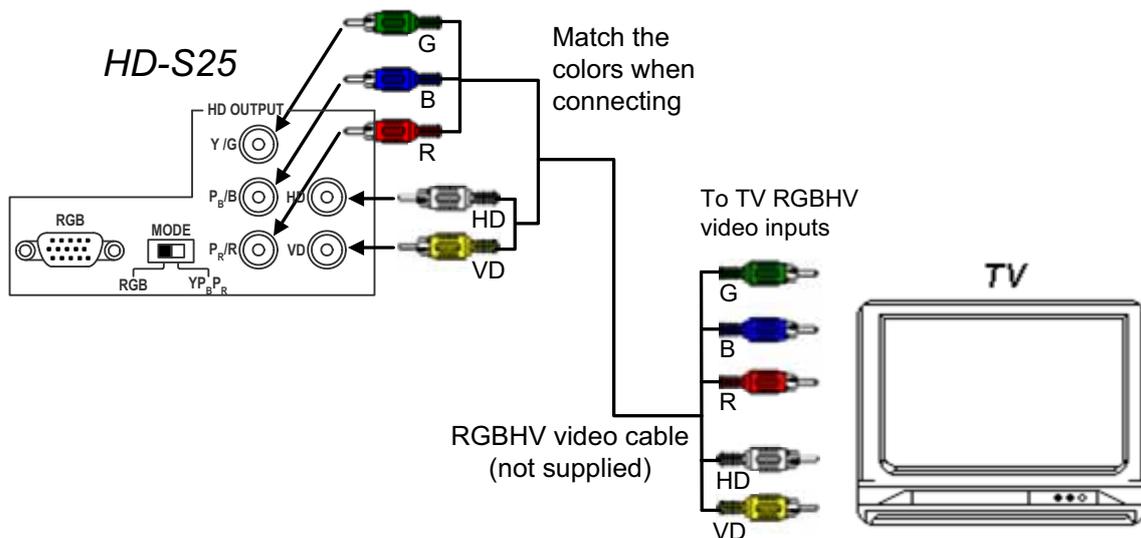

Note: This diagram illustrates video connections only. Please refer to Page 15 for Audio connection.

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(c) **YP$_B$P$_R$ connection**: If your TV has component video inputs, use the component video cable included in the HD-S25 accessory box. Set the MODE-Switch (refer to page 8) to YP$_B$P$_R$, and then connect the Y/G, P$_B$/B and P$_R$/R connectors from "HD OUTPUT" on the rear of the receiver to the corresponding jacks on the TV.
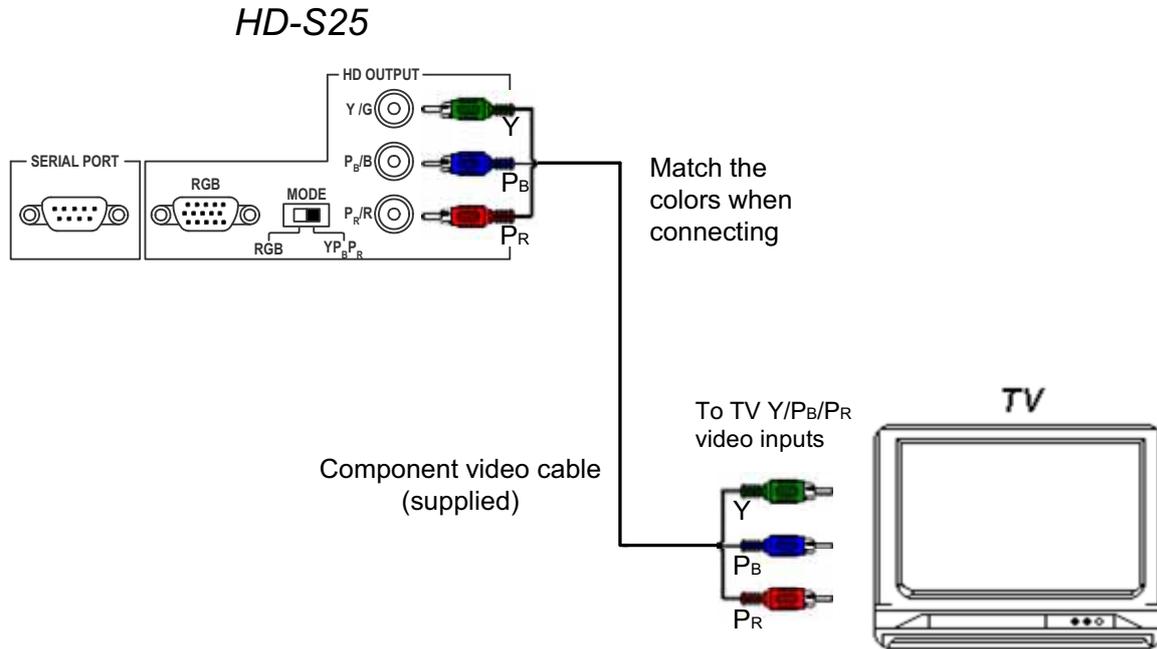
HD-S25

Note: This diagram illustrates video connections only. Please refer to Page 15 for Audio connection.

(d) **S-Video connection**: If your TV has a S-Video input, use a S-Video cable (not supplied) to connect the receiver to your TV. Set the MODE-Switch (refer to page 8) to YP$_B$P$_R$, and then connect the S-Video connector from "SD OUTPUT" to the corresponding jack on the TV.
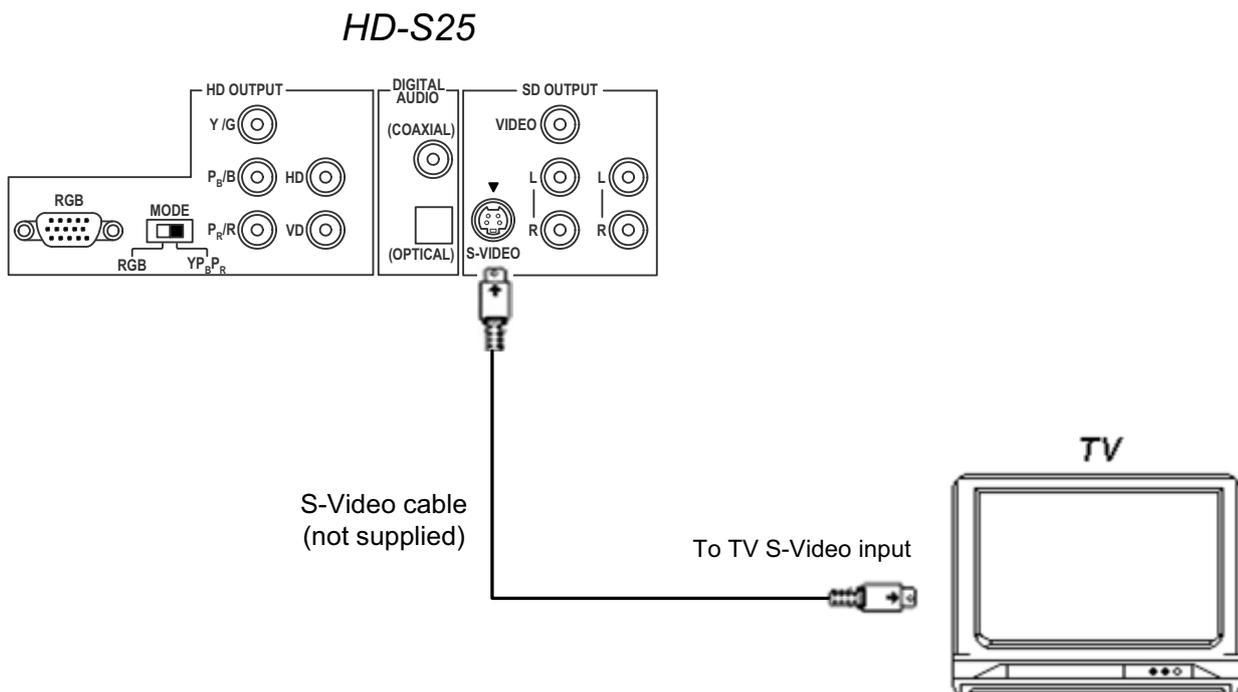
HD-S25

Note: This diagram illustrates video connections only. Please refer to Page 15 for Audio connection.

(e) **Composite video connection**: If your TV has composite video inputs, use the yellow connector of the Audio/Video cable included in the HD-S25 accessory box. Set the MODE-Switch (refer to page 8) to YP_BP_R, and then connect the yellow video connector from "SD OUTPUT" to the corresponding jack on the TV.

HD-S25

Match the colors when connecting

Audio/Video cable (supplied)

To TV composite video input

TV
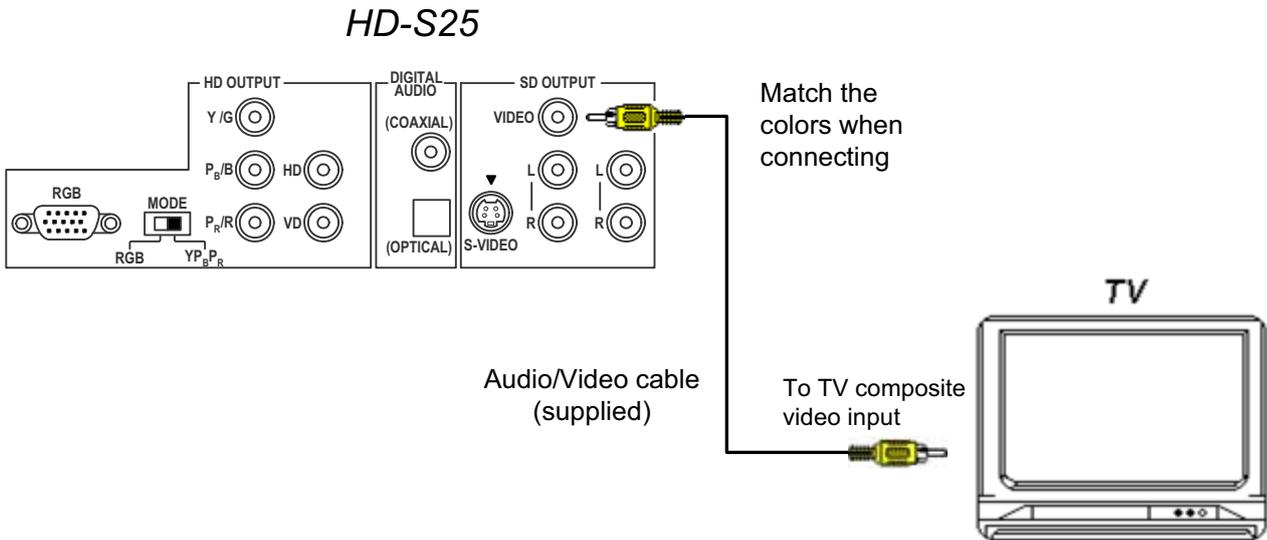
*Note: This diagram illustrates video connections only. Please refer to Audio connection below.*

1-4. Connections to TV – Audio Connection

For audio connections, you have two choices. You can connect the receiver to your TV or to an audio amplifier equipped with a Dolby® Digital decoder.

If you do **not** have an external amplifier equipped with a Dolby® Digital decoder, use the red and white connectors of the Audio/Video cable included in the package. Connect the audio connectors from "L/R" to the corresponding jacks on the TV: red to red (right audio) and white to white (left audio).

Note: If your TV has only one audio input jack, connect either the right or left audio connector to the audio jack.

Do not *connect the yellow connector to TV if using RGB, component video or S-Video connector.*

HD-S25

white

red

Match the colors when connecting

Audio/Video cable (supplied)

white

red

To TV audio inputs

TV

15
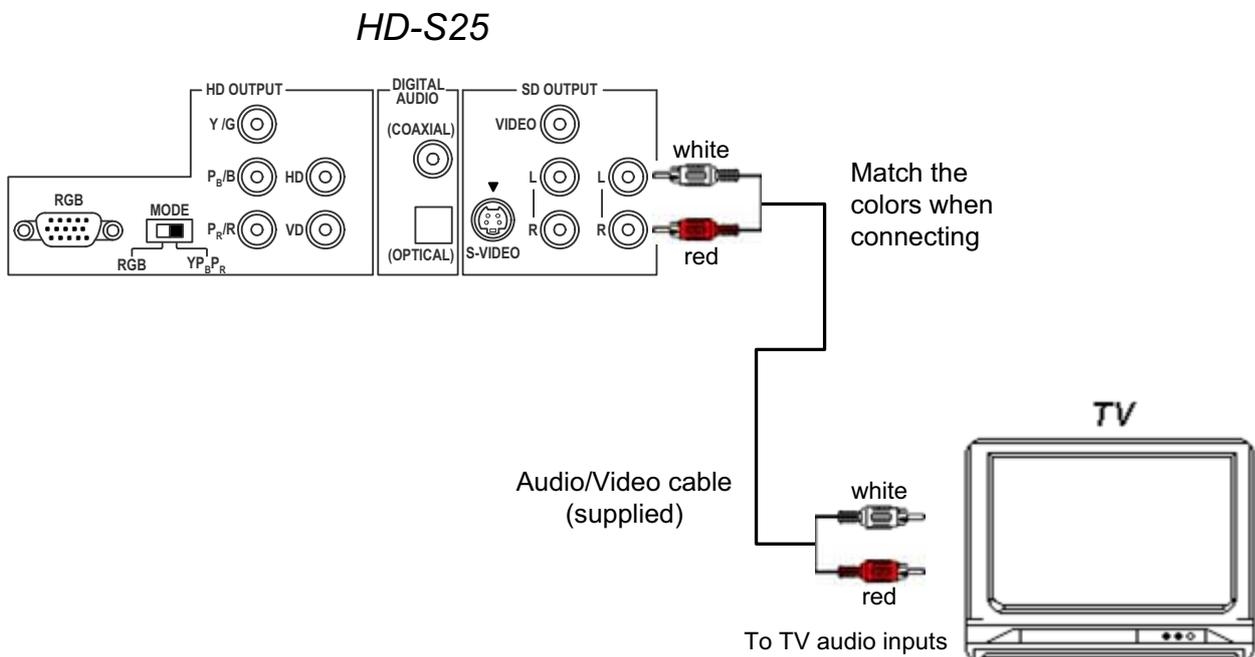
2. <u>CONNECTING TO DVD PLAYER</u>

In case you have a DVD player with component video outputs, but your TV has only **one** set of component video inputs, you may follow the AUX (refer to page 43 for explanation of AUX) connection described below to achieve a good video performance.

Set the MODE-Switch (refer to page 8) to YP_BP_R, and then use a component video cable to connect from the DVD's YP_BP_R output to the HD-S25 "AUX INPUT" YP_BP_R connectors; Use an Audio/Video cable to connect the audio connectors from DVD's audio output to the HD-S25 "AUX INPUT" L/R: red to red (right audio) and white to white (left audio).
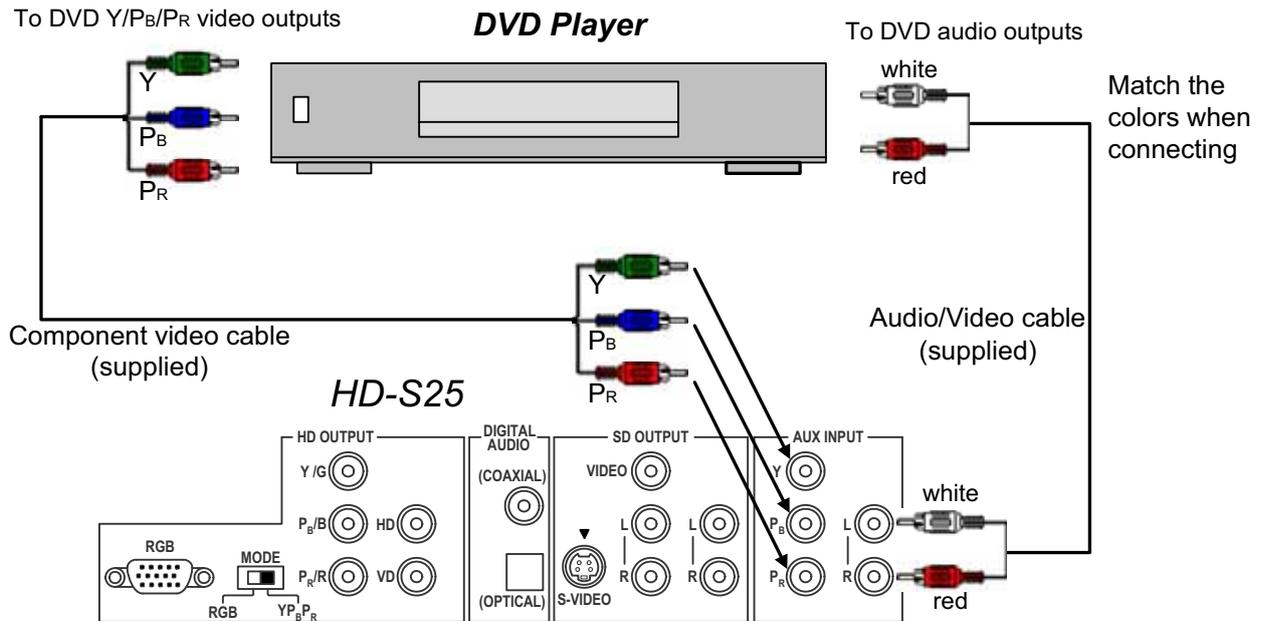
Note: 1. **If you use an HD-ready TV while the HD input of your TV <u>cannot</u> support SD video format, please connect your DVD player directly to your TV via the SD video input.**

2. If you want to use this AUX connection, you **<u>must</u>** follow the steps below to connect the HD-S25 receiver to TV:

    • Prepare another component video cable and use **Video Connection (c) YP_BP_R** on page 14.

    • Prepare another Audio/Video cable and use Audio Connection on page 15.

3. There is no video format conversion in AUX mode.

3. CONNECTING TO AMPLIFIER

If you connect this receiver to an audio amplifier equipped with a Dolby® Digital decoder, use an optical digital cable (not supplied) to connect from the receiver's "DIGITAL AUDIO (Optical) or (Coaxial)" to digital audio input in your amplifier. **In this case make sure that you do <u>not</u> connect the audio connectors (red and white) on the Audio/Video cable to your TV.**

HD-S25 Receiver

Amplifier equipped with a Dolby decoder

TO DIGITAL AUDIO
(OPTICAL or COAXIAL)

Optical or Coaxial digital cable (not supplied)
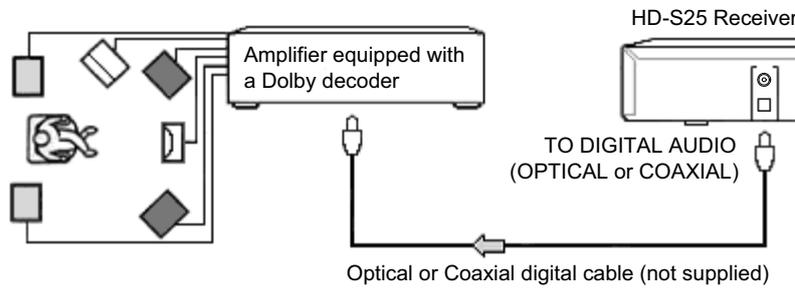
▨ : Front speaker
▨ : Rear speaker
▯ : Subwoofer
◖ : Centre speaker
⇨ : Signal flow

4. CONNECTING TO MAINS SUPPLY

Plug the receiver into the mains.

HD-S25 Receiver

AC IN ~

Wall Outlet

Power Cord
(supplied)
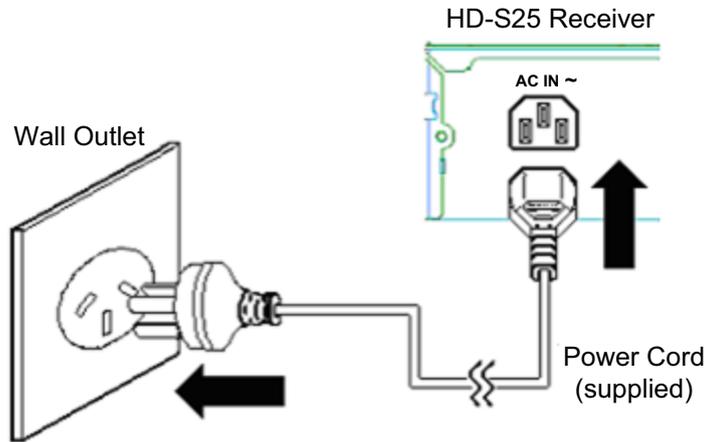
The above diagram is illustrated with an Australian power plug.
In other regions, please use the appropriate power plug.

STEP B: PREPARING YOUR REMOTE CONTROL

Loading batteries

1. Open the Cover.
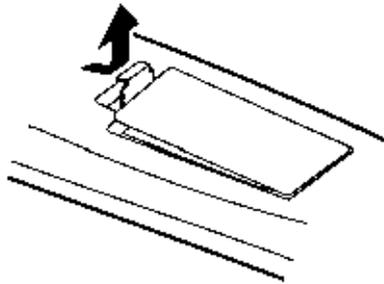
2. Insert two R03 (AAA size) batteries.
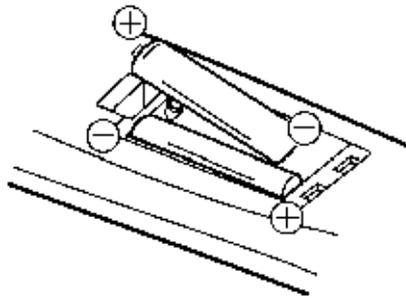
   - Make sure to match the + and – on the batteries to the marks inside the battery compartment.

3. Close the cover.
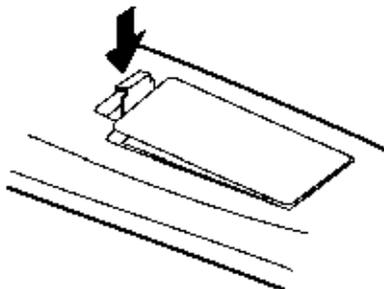
Notes on batteries

Improper use of batteries may cause battery leakage and corrosion. To operate the remote control correctly, follow the instructions below.

● Do not insert batteries into the remote control in the wrong direction.

● Do not charge, heat, open, or short-circuit the batteries. Do not throw batteries into fire.

● Batteries contain toxic substances. Do not dispose of them with ordinary trash. Dispose of

batteries only in accordance with local ordinances.

● Do not leave dead or exhausted batteries in the remote control.

● Do not use different types of batteries together, or mix old and new batteries.

● If you do not use the remote control for a long period of time, remove the batteries to avoid possible damage from battery corrosion.

● If the remote control does not function correctly or if the operating range becomes reduced, replace all batteries with new ones.

● If battery leakage occurs, wipe the battery liquid from the battery compartment, then insert new batteries.

Operating with the remote control

30°   30°

Within about 5m
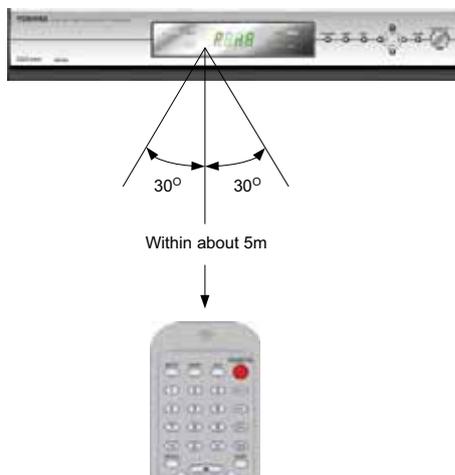
1. Point the remote control at the remote sensor and press the buttons.
2. Distance: About 5 m from the front of the remote sensor.
3. Angle: About 30° in each direction of the front of the remote sensor.

● Do not expose the remote sensor of the receiver to a strong light source such as direct sunlight or other illumination. If you do so, you may not be able to operate the receiver via the remote control.

● Do not drop or give the remote control a shock.

● Do not leave the remote control near an extremely hot or humid place.

● Do not spill water or put anything wet on the remote control.

● Do not disassemble the remote control.

STEP C: SETTING UP YOUR RECEIVER

Note: If your service provider or antenna installer has already installed your TV system to receive terrestrial TV programs, do not change any connections of those devices or installation settings unless it is absolutely necessary.

If your receiver has not been configured by your service provider or system installer, it will not be set up for any specific channel or frequency when powered on for the first time. In this case you should follow the steps below to set up your receiver.

1. Switch on the TV.

2. Using your TV's remote control, select the appropriate external Audio/Video input on your TV according to the connection you have made in Step A.

3. Make sure the receiver is already in power-on mode. If it is in standby mode (i.e. front panel shows "----"), switch on the receiver by pressing the "STANDBY/ON" button on the front panel of the receiver or on the remote control.

4. A message "Database is Empty" should appear after a while. If you can see the message, go to Step 5 directly;
   However, if you cannot see the message on the screen even after a long time, please change the video format by pressing V.FORMAT button on remote control or on the front panel (the default video format of HD-S25 receiver is "PAL" if the MODE-Switch is set to YP_BP_R and the default video format is "576p" if the MODE-Switch is set to RGB). Press V.FORMAT button until you see the message "Database is Empty".

   Note: When you press V.FORMAT button, the four-digit LED on the receiver's front panel will display among "PAL" (for MODE-Switch being set to YP_BP_R only), "AUTO", "1080i", "720p" and "576p". After you press V.FORMAT button, please make sure the front panel LED display has changed before you press the button again.

5. After you see a message "Database is Empty" appears, press the "MENU" button. A "Region Selection" menu appears.

   - Use the directional buttons "◄" and "►" to highlight your region of residence and press the "ENTER" button to make your selection. The region setup process may take a few minutes to complete.

   - If the "Region Selection" menu does not appear, please refer to "RESET DATA" on page 27 to reset the database.

6. You will see the Main Menu (page 25). Press the "▼" button twice to highlight "INSTALLATION" and then press "ENTER". When prompted, enter "0000" which is the default password.

7. To tune the receiver, you have choices of MANUAL SETUP / AUTO SCAN / QUICK SCAN. We recommend that you use "QUICK SCAN" (page 25) for a faster setup. For more information on the various tuning options, please refer to pages 25~27.
   Note: The choices of AUTO SCAN and QUICK SCAN are for Australia only.

8. If you use "QUICK SCAN" in step 7 and when you see the message ">>> SCAN COMPLETE <<<", press the "EXIT" button several times until the main menu disappears.

9. After you finish scanning, you can choose the suitable V.FORMAT. If you use an SDTV, use the V.FORMAT "PAL" (for MODE-Switch being set to YP_BP_R only); If you use an HD-ready TV, you are recommended to change to "AUTO" by pressing V.FORMAT button; However, if your HD-ready TV cannot display some specific video format, press V.FORMAT button to change to an appropriate fixed format. (For more details, please refer to Appendix 2 System Setup Table in page 50).

10. Congratulations! You have successfully setup your receiver.

VIEWING PROGRAMS

1. After you have tuned the receiver, you have several ways to navigate through all programs:

   - Press the "LIST" button to call up the "Program List" (page 39) and select a program of your interest. This will also set your viewing mode to "Normal".

   - Press the "FAV." button to call up the "Favorite Channel List" and select a program of your interest (page 40). Entries in this "Favorite Channel List" are those that you have added under "FAVORITE&LOCK" (page 34). This will set your viewing mode to "Favorite".

   - Use the directional buttons "▲" and "▼" to view the previous and next program. The programs are arranged according to the "Program list" or "Favorite Channel List" (depending on your current viewing mode). See "I-PLATE (INFO)" on page 38 for more information on viewing modes.

2. Press the "INFO" button to view details on a program.

3. Press the "EPG" button to view Program Guide for current and next event information.

4. The information contained in this chapter ("STARTUP GUIDANCE") is only meant to be a quick installation guide. Please familiarize yourself with other functions of the receiver by reading the remaining chapters in this manual.

TURNING OFF THE RECEIVER

Set the receiver to standby mode by pressing the "STANDBY/ON" button.
If you would not use the receiver for a long time, unplug the power cord from the wall outlet to completely eliminate all voltages.

Menu Navigation

- **Menu Map**
- **Main Menu**
- **Installation**
  - **Quick Scan (For Australia Only)**
  - **Auto Scan (For Australia Only)**
  - **Manual Setup**
  - **Reset Data**
  - **S/W Update**
- **Program**
  - **Program List**
  - **EPG**
- **System**
  - **Video Setup**
  - **Audio Setup**
  - **Password**
  - **Time Zone**
  - **Ext Control**
- **Edit channel**
  - **Favorite&Lock**
  - **Parental Rate (For Australia Only)**
- **Profile**
  - **Transparency**
  - **I-Plate Setup**
  - **FP Display Setup**
  - **AUX in Standby**
  - **Information**

MENU MAP

Use the directional buttons to navigate through the menu, "ENTER" button to choose specific items, and "EXIT" button to return to the main menu from submenu or to leave the main menu.

```
MAIN MENU
page 25
    │
    ├──▶ PROGRAM ────────────────▶ PROGRAM LIST
    │    page 30                    page 30
    │                          └──▶ EPG
    │                               page 30
    │
    ├──▶ EDIT CHANNEL ──┬──▶ FAVORITE&LOCK
    │    page 34        │    page 34
    │                   └──▶ PARENTAL RATE
    │                        page 34
    │
    ├──▶ INSTALLATION ──────────────────────▶ QUICK SCAN
    │    page 25                               page 25
    │                                     ──▶ AUTO SCAN
    │                                          page 26
    ├──▶ SYSTEM ──────▶ VIDEO SETUP       ──▶ MANUAL SETUP
    │    page 31        page 31                page 26
    │                ──▶ AUDIO SETUP      ──▶ RESET DATA
    │                    page 32               page 27
    ├──▶ PROFILE ──┬──▶ TRANSPARENCY  ──▶ PASSWORD  ──▶ S/W UPDATE
    │    page 35   │    page 35           page 33        page 28
    │              ├──▶ I-PLATE SETUP ──▶ TIME ZONE
    │              │    page 35           page 33
    │              ├──▶ FP DISPLAY SETUP ──▶ EXT CONTROL
    │              │    page 36              page 33
    │              ├──▶ AUX IN STANDBY
    │              │    page 36
    │              └──▶ INFORMATION
    │                   page 36
```
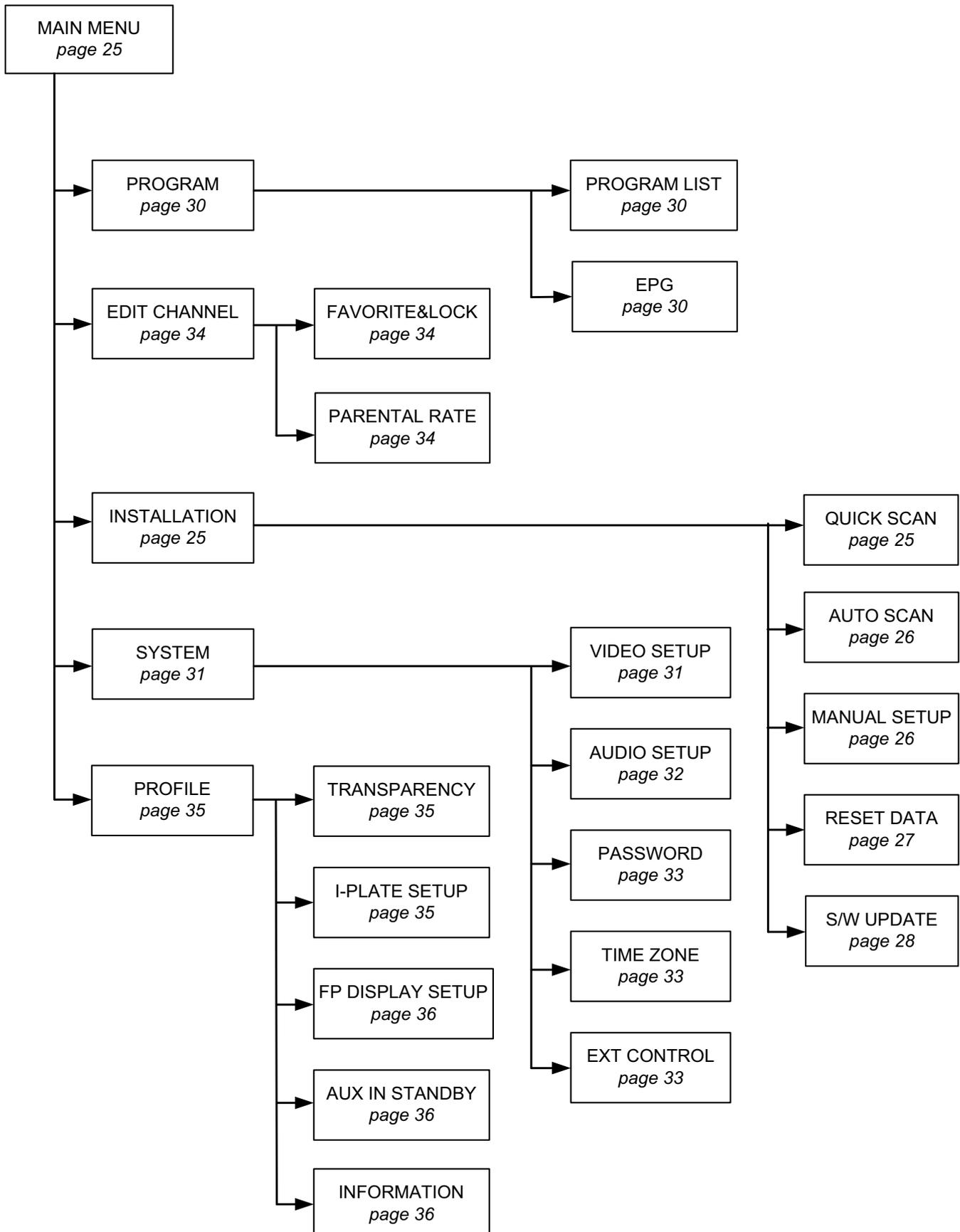
MAIN MENU

There are two ways to enter the Main Menu when the receiver is powered on:

- On the remote control, press the "MENU" button.

- Alternatively, press "MENU" button on the front panel.

- Use the directional buttons to navigate through the menu, "ENTER" button to choose specific items, and "EXIT" button to return to the main menu from submenu or to leave the main menu.

INSTALLATION

On the main menu, select "INSTALLATION" and key-in your password to enter the "INSTALLATION" page. The default password is 0000. Please refer to page 33 to change the password.

If you are in Australia, you have choices of MANUAL SETUP / AUTO SCAN / QUICK SCAN to tune the receiver. If you stay in other region, please use MANNUAL SETUP to tune the receiver.

MAIN MENU → INSTALLATION →
- QUICK SCAN (for Australia only)
- AUTO SCAN (for Australia only)
- MANUAL SETUP
- RESET DATA
- S/W UPDATE
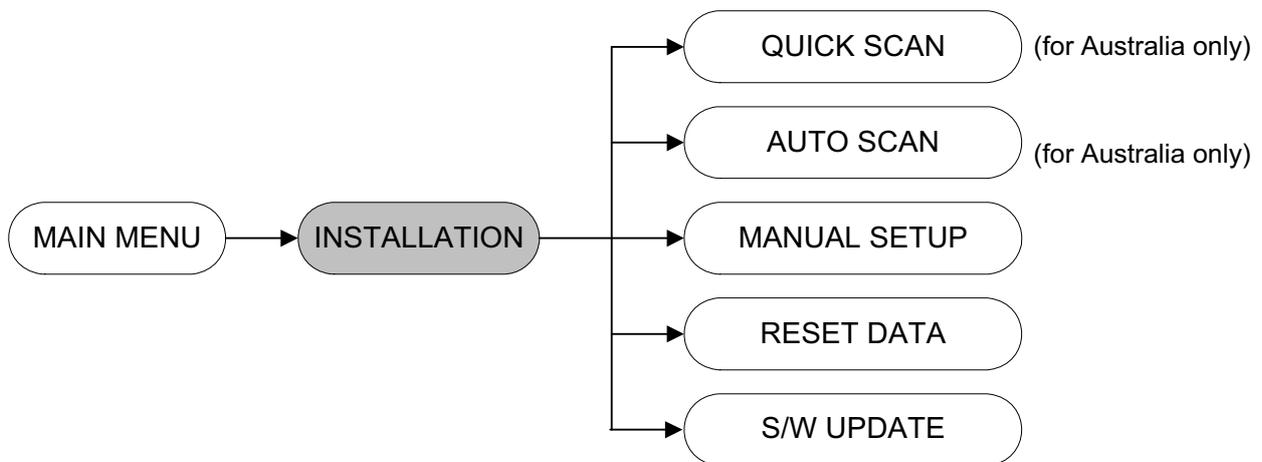
QUICK SCAN (For Australia Only)

The "QUICK SCAN" feature allows you to scan all predefined digital TV channel signals in Australia.

- On the installation page, highlight "QUICK SCAN" and press the "ENTER" button.

- Use the "▲" and "▼" buttons to highlight the city you live in and press the "ENTER" button to start scanning.

- It will scan through respective RF channels available in your city.

- Once a digital TV channel is found, the channel number and programs names in this

channel will be shown.

- When you see the message ">>> SCAN COMPLETE <<<", you have completed tuning your receiver. If no channel is found, please refer to "TROUBLESHOOTING" in Appendix 2.

- Press the "EXIT" button several times to leave the Main Menu.

Note: The frequencies of the "quick scan" channels are preset in the receiver's database. In case that the local TV station changes the channel frequency or a new channel comes up, you have to scan these channels using "MANUAL SETUP".

AUTO SCAN (For Australia Only)

The steps required to automatically program the receiver are outlined as below:

- Highlight "AUTO SCAN" and press the "ENTER" button to start channel search.

- The receiver starts scanning from channel 2 to channel 69. The status bar shows the progress being made.

- Once a digital TV channel is found, the channel number and program name will be shown.

- When you see the message ">>> SCAN COMPLETE <<<", you have completed tuning your receiver. If no channel is found, please refer to "TROUBLESHOOTING" in Appendix 2.

- Press the "EXIT" button several times to leave the Main Menu.

Note: Auto scan process may take about 18 minutes to complete.

MANUAL SETUP

- On the "INSTALLATION" page, highlight "MANUAL SETUP" and press the "ENTER" button.

- Select channel number. Be sure you know the channel number and its RF frequency. You may refer to Digital TV channel table in Appendix 1.

- Press "▼" button to highlight "Frequency", "Bandwidth" and "Priority" to make sure the parameters are correct, then press "▼" button to highlight "Start Scan" and press the
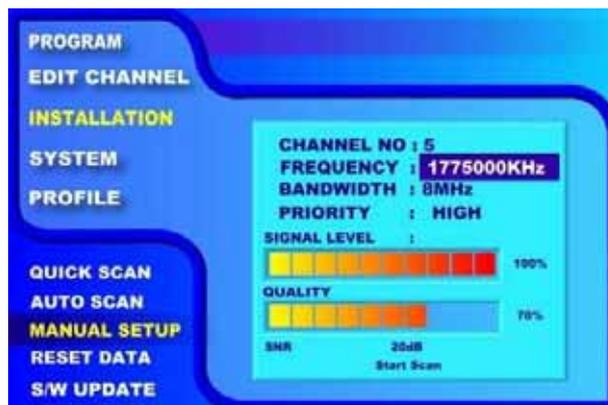
"ENTER" button to start scanning.

- If scanning is successful, "Start Scan" will change to "Get Channel Success" and signal quality will be shown. At this point you can press "EXIT" to leave "MANUAL SETUP" or continue scanning other channels.

- If scanning is unsuccessful, "Start Scan" will change to "Timeout Error". At this point you can rescan the signal or refer to the SIGNAL LEVEL bar and signal QUALITY for aligning the direction of the antenna to get the signal. Please refer to your antenna installer if problem persists.

Notes:

1. For Australia, the BANDWIDTH should be 7MHz.

2. The PRIORITY should be set to "HIGH" for Australia.

3. SIGNAL LEVEL refers to the input RF signal strength as perceived by the receiver. Please note that too strong a signal may cause erroneous readings. If you use an antenna booster and find that you still get a low signal level, your booster gain may be set too high. In this case, please adjust the gain accordingly.
   You may also see the OSD "Bad or No Signal" or "Weak Signal" when the signal level is low.

   QUALITY refers to the quality of the received digital signal. A high value of quality means that there are few errors in the signal. In the same way, a low value of quality implies that there are a large number of errors in the signal, which may cause distortions in video and audio.

   SNR is the signal-to-noise ratio. A high SNR value means that you have a reasonably good reception (good signal level and good quality).

RESET DATA

Use this function when you want to clear channel data and reset the password to default ("0000").

This function is to be used under any one of the following circumstances:

1. When the "Region Selection" menu does not appear on step 6 of page 20;

2. When moving to another city.

- On the "INSTALLATION" page, highlight "RESET DATA" and press the "ENTER" button.

- Select "YES" to restore to default data.

- The receiver will reboot automatically. You will see a message "Database Empty" after the boot up process. You can then proceed to set up your receiver by following the instructions on page 20.

S/W UPDATE

This option in the "INSTALLATION" page updates the software in the receiver. By keeping the system software up-to-date, you enjoy the latest features and bug fixes. However, before you proceed to update the software, please consult your local dealer to obtain the latest software and make sure you know how to operate HyperTerminal®[2] for the Windows®[3] operating system on your computer.

- Highlight "S/W UPDATE" and press the "ENTER" button.

- Use the "◄" and "►" buttons to highlight between "YES" and "NO".

- **Before you select "YES"**, please follow the steps outlined below to configure your PC first:
  (a) Connect PC to your HD-S25 receiver with a crossed-over RS232 cable (cable for null modem).
  (b) On the PC side:
    - Launch the HyperTerminal® application.
    - Name the connection.
    - Select the correct COM port – usually COM1.
    - Use the following COM port settings:
   baud rate: 57600
        data: 8
        parity: none
        stop bit: 1
        flow control: none
    - After you click the "OK" button, you may see many messages appearing in the HyperTerminal screen. Please ignore them and proceed to the next step.
    - Select HyperTerminal's basic function "Transfer".
    - Select "Send File".
    - Browse to select the updated software file.
    - Transfer protocol: "1K Xmodem"
  DO NOT click on the "Send" button at this time yet.

- Now that your PC has been properly configured, you can highlight "YES" on the TV screen and press the "ENTER" button on the remote control.

- After selecting "YES", you will see the current software version on the TV screen. Make sure this software version is different from the version of the new software file stored on your PC. Select "YES" again to proceed with the download.

---
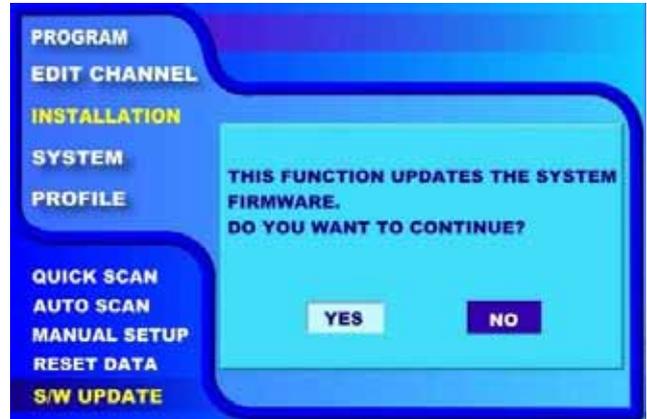
[2] HyperTerminal® is a registered trademark of Hilgraeve Inc.
[3] Microsoft® and Windows® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

- Now click on the "Send" button on your PC HyperTerminal to start uploading the new software.

- On the TV screen, you will see the window with a status bar indicating the download progress.

- When download is completed, the receiver will reboot automatically. You can now exit HyperTerminal.

- After the receiver is booted up, you will see a message window informing you that the receiver's database is empty. Note that the password will also be reset to the default "0000". Now press the "MENU" button and select your region of residence.

- On the Main Menu, select "PROFILE" and then "INFORMATION" to confirm the current software is indeed changed to the new one. You can then proceed to tune your receiver by following "INSTALLATION" instructions on page 25.

Note: It is safe to turn off the receiver only **after** the receiver has booted up automatically. Please **do not** disconnect the receiver from the power source during the software update process. If there is a power failure during this time, the receiver may become unusable. In this case, please contact your local dealer.

PROGRAM
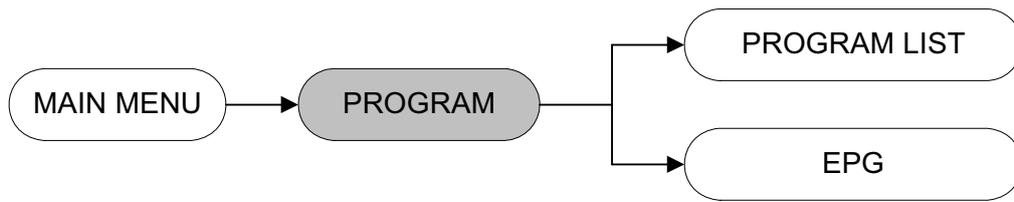
- On the Main Menu, select "PROGRAM"

- Use "▲" and "▼" buttons to highlight the options
  - PROGRAM LIST
  - EPG

PROGRAM LIST

- Highlight "PROGRAM LIST" and press the "ENTER" button. This sets your current viewing mode to "Normal". See "I-PLATE (INFO)" on page 38 for more information.

- Use the directional buttons to highlight a channel.

- Press the "ENTER" button to preview a channel and show "Now & Next info". Please refer to page 38 "I-PLATE (INFO) for details.

- To exit from the "PROGRAM LIST", press the "EXIT" button.

Note: Another way to call up the "PROGRAM LIST" is via the "LIST" button on the remote control. Please refer to "LIST" on page 39 for details.

EPG (Electronic Program Guide)

- Highlight the "EPG" and press the "ENTER" button.

Note: Another way to call up the "EPG" is via the "EPG" button on the remote control. Please refer to "EPG" on page 39 for details.

SYSTEM

- On the main menu, select "SYSTEM".

- Use the "▲" and "▼" buttons to highlight the options
  - VIDEO SETUP
  - AUDIO SETUP
  - PASSWORD
  - TIME ZONE
  - EXT CONTROL

VIDEO SETUP

- Highlight "VIDEO SETUP" and press the "ENTER" button.

- Use the "▲" and "▼" buttons to highlight the options
  - HD OUTPUT FORMAT
  - ASPECT RATIO

HD OUTPUT FORMAT
Use the "◄" and "►" buttons to switch among video formats "PAL" (for MODE-Switch being set to YP_BP_R only), "AUTO", "1080i", "720p" and "576p". In "AUTO" mode, the receiver switches the video output format to the same as sent by the broadcaster automatically. Otherwise, the receiver will fix its video output at the format you have selected.

SD OUTPUT FORMAT
This setting cannot be changed.

ASPECT RATIO
Use the "◄" and "►" buttons to switch among the three different aspect ratios "4:3 (16:9 Crop)",

Notes:
1. Alternatively, you can press the "V.FORMAT" button on the remote control to change the output format as described on page 50
2. You can also press "A.RATIO" button on the remote control to change the aspect ratio as described on page 42
3. "AUTO - 1080i" means that the receiver is in auto-switching mode and the current video format as sent by the broadcaster is 1080i. Likewise for "AUTO - 720p", "AUTO - 576p" and "AUTO - PAL"

"16:9 (4:3 Pillarbox)" and "4:3 (16:9 Letterbox)". Please refer to the table on page 42 for more information.

4. If, for purposes other than personal viewing, you display a program in a different aspect ratio from its original setting, you may infringe on the copyrights that the program may be under.

AUDIO SETUP

- Highlight "AUDIO SETUP" and press the "ENTER" button.

- Use the "▲" and "▼" buttons to select between "AUDIO FORMAT" and "DIGITAL OUTPUT".

- Press the "ENTER" button to confirm your choice.
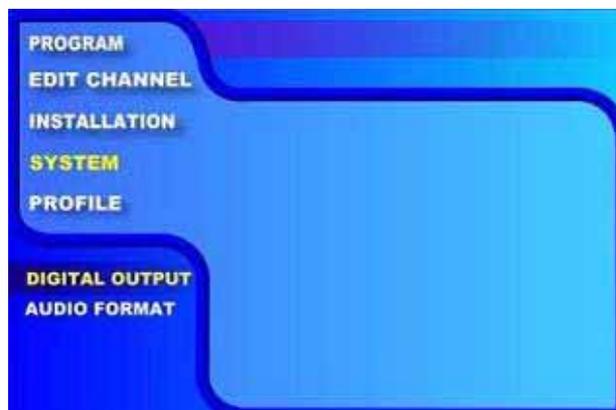
DIGITAL OUTPUT

- If the broadcasted program contains more than one type of digital audio output, use the "◄" and "►" buttons to switch between the available options "PCM" and "Dolby Digital".

Note: You need to connect the receiver to an amplifier with Dolby® Digital decoding capability via "DIGITAL AUDIO" optical port or coaxial port when "Dolby Digital" option is selected (please refer to page 15 for the connection details). Otherwise, you may encounter softer audio from TV.
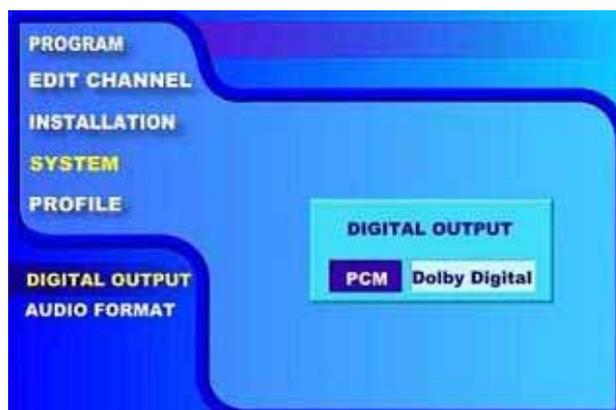
AUDIO FORMAT

- Use the "▲" and "▼" buttons to select the preferred audio format present in the program you are watching.

Note: Alternately, you can pop up the AUDIO SELECTION window by pressing the AUDIO button on the remote control. Please refer to AUDIO on page 44.

PASSWORD

- Highlight "PASSWORD" and press the "ENTER" button. When prompted, enter your current password by pressing the numeric buttons on the remote control.

- You will then be prompted to enter the New Password.

- Enter the new password again to reconfirm.

Notes:
1. The default password is 0000.
2. If you forget your password, please refer to "S/W UPDATE" to "update" the software and reset the password to default.
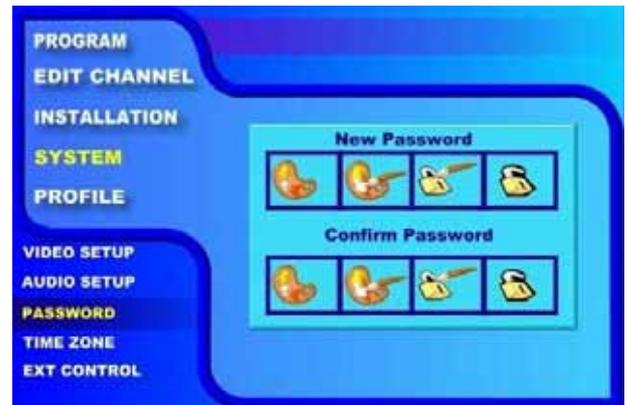
TIME ZONE

- Highlight "TIME ZONE" and press the "ENTER" button.

For Australia:
Use the "▲" and "▼" buttons to select the local time zone you are located in.

For other region:
Use the "◄" and "►" buttons to select the time zone you are located in.

EXT CONTROL

For details of controlling the HD-S25 receiver by an external device connected via the RS-232 serial port, please consult your local dealer.

EDIT CHANNEL

```
MAIN MENU ──▶ EDIT CHANNEL ──┬──▶ FAVORITE&LOCK
                             │
                             └──▶ PARENTAL RATE  (for Australia only)
```
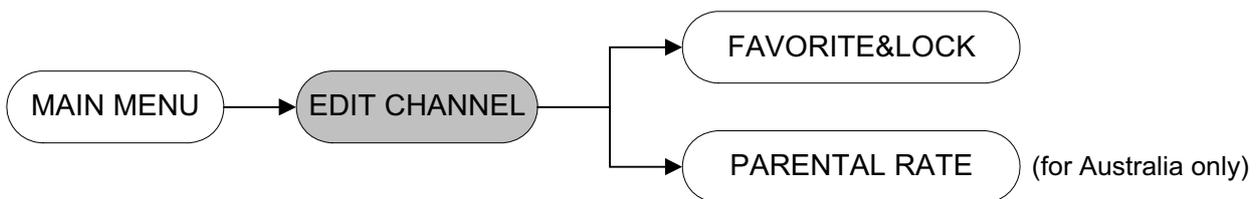
- On the main menu, select "EDIT CHANNEL".

- Enter your password when prompted.

For Australia:
- Use the "▲" and "▼" buttons to highlight the options
  - FAVORITE&LOCK
  - PARENTAL RATE

For other regions:
- Only "FAVORITE&LOCK" table will appear. Please refer to "FAVORITE&LOCK" description below.

FAVORITE&LOCK

- Use the "▲" and "▼" buttons to select a channel and the "◄" and "►" buttons to highlight a "🔒", "💜" or "✖" cell.

- When a cell is highlighted, press the "ENTER" button to perform the following:
  🔒: Toggles locking and unlocking a channel.
  💜: Toggles adding and removing from Fav. channel list.
  ✖: Deletes the highlighted channel.
Note: To add back the deleted channel, you need do Installation (refer to page 25) again.

PARENTAL RATE (For Australia Only)

You can limit the type of programs displayed on the TV based on the parental guidance codes listed in Appendix 3. By default, the "PARENTAL GUIDANCE" level is set to "No Block", i.e. you can view all types of programs.

- On the "EDIT CHANNEL" page, highlight "PARENTAL RATE" and press the "ENTER" button to block programs.

- Use the "▲" and "▼" buttons to select the Rating and press the "EXIT" button to confirm the setting.

- When DTV programs broadcasted are accompanied by the ratings, the programs will be blocked based on your setting. You have to enter PASSWORD to resume watching the program.

34
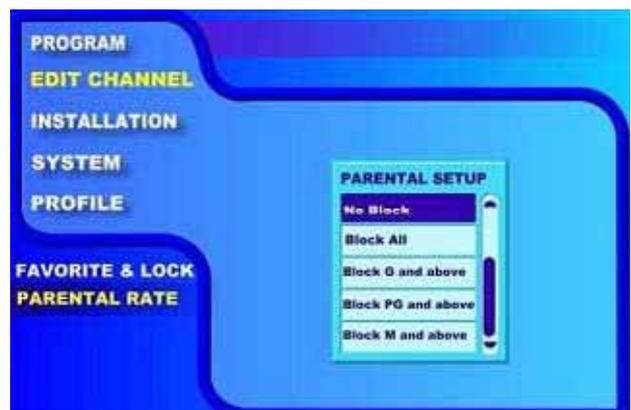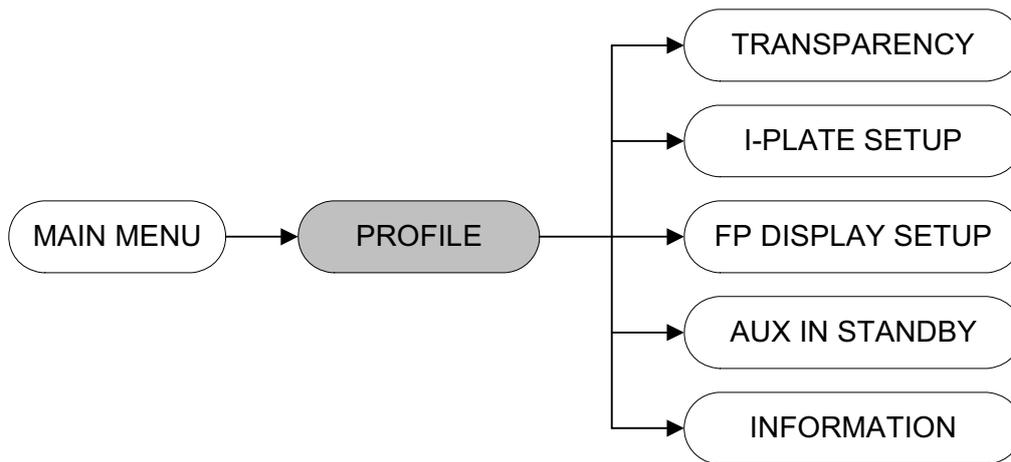
PROFILE

- On the main menu, select "PROFILE".

- Use the "▲" and "▼" buttons to highlight the options

  - TRANSPARENCY
  - I-PLATE SETUP
  - FP DISPLAY SETUP
  - AUX IN STANDBY
  - INFORMATION

TRANSPARENCY

- Highlight "TRANSPARENCY" and press the "ENTER" button.

- Use the "◄" and "►" buttons to change the degree of transparency of the on-screen-display.
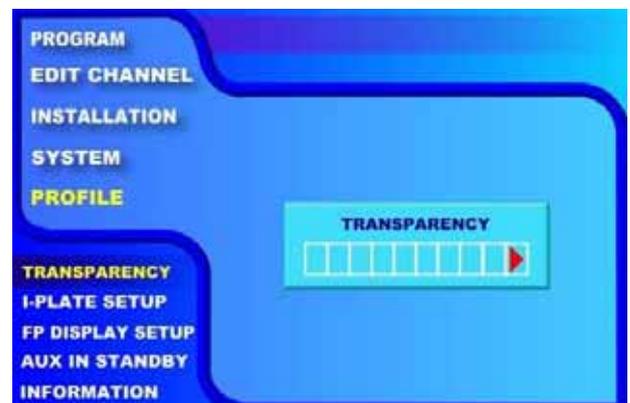
I-PLATE SETUP

- Highlight "I-PLATE SETUP" and press the "ENTER" button.

- Use the "▲" and "▼" buttons to highlight "Fading Mode", "Display Time" or "Time Format".

- Use the "◄" and "►" buttons to change the values of the highlighted options.

- For more information on I-PLATE, please refer to page 38.

FP DISPLAY SETUP

- Highlight "FP DISPLAY SETUP" and press the "ENTER" button

- Use the "◄" and "►" buttons to choose "TIME" or "CHANNEL NUMBER". This will change the Front Panel LED display information.

Notes:
1. TIME sets the receiver's front panel four-digit LED display to show current time. The displayed current time is purely based on the time sent by the broadcaster of the channel you are currently viewing, which may not be accurate.

2. When the receiver is in off-air mode, CHANNEL NUMBER sets the receiver's front panel four-digit LED display to show the channel number sent by the broadcaster.

   When the receiver is in AUX mode, CHANNEL NUMBER sets the receiver's front panel four-digit LED display to show "*RUH*".

AUX IN STANDBY

- Highlight "AUX IN STANDBY" and press the "ENTER" button to choose to enable or disable the AUX function when the receiver is in standby mode.
    - ENABLED: When the receiver is in standby mode, the AUX is only applicable if MODE-Switch in the rear panel is set to YP_BP_R.
    - DISABLED: When the receiver is in standby mode, the AUX is not applicable.

INFORMATION

- Highlight "INFORMATION" and press the "ENTER" button to check hardware and software versions.

Quick Control

Simple use of a single button enables access to some functions directly.

- **Info (I-Plate)**
- **List (Program List)**
- **EPG (Electronic Program Guide)**
- **Fav. (Favorite Channel List)**
- **PIP (Picture-in-Picture)**
- **TTX (Teletext)**
- **CC (Closed Caption) (For Australia Only)**
- **Freeze**
- **V.Format (Video Format)**
- **A.Ratio (Aspect Ratio)**
- **AUX**
- **Sleep**
- **Audio**
- **Recall**

INFO (I-Plate)

- When watching a DTV program (without any menu on the screen), press the "INFO" button.

- I-PLATE will pop up with the following information:
  - Current Channel Number (enclosed in "▱" or "♡" shapes depending on viewing mode)
  - Locking status (indicated by a padlock icon)
  - Network Name
  - Program Name
  - Audio System (Dolby® Digital or MPEG)
  - Teletext
  - Closed-Caption
  - Current Local Time (as received from the broadcaster)
  - Date and Month
  - Parental Guidance Code
  - Received program video format
  - SNR value

If you do not press any button within a time-out period (configured in "I-PLATE SETUP" on page 35), the I-PLATE display will fade out by itself. Alternatively, you can press the "EXIT" button to quit I-PLATE earlier.

- When I-PLATE is still on the TV screen, you can press the green button to set/unset a reminder on the next program. If the reminder will start at the same time with a reminder you have set previously, you can choose to press "ENTER to replace" or "EXIT to cancel".

- When I-PLATE is still on the TV screen, you can press the "INFO" button again to call up the extended program information (Now & Next) of the current TV channel. **Please note that the Now & Next info may not be present for some channels.**

- Use "◄" and "►" buttons for details on NOW and NEXT event, and "▲" and "▼" buttons for scrolling an event table that consists of more than 1 page.

- The first row shows channel name, showing time and parental rating. The second row shows program name. The third row shows program genre or empty when data is not broadcasted.

- Press the "EXIT" button to cancel the Now & Next info display.

Note: Please refer to page 39 for more information on EPG.

SNR value
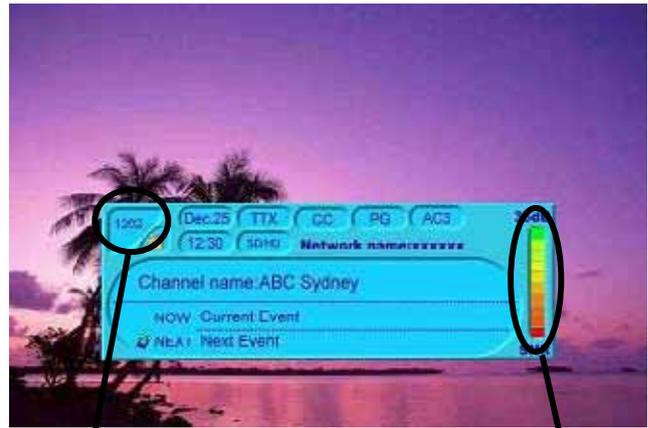
▱ indicates "Normal" viewing mode

♡ indicates "Favorite" viewing mode

When viewing mode is "Normal", buttons "▲", "▼", "CH▲" and "CH▼" allow you to navigate programs in the "Program List".
When in "Favorite" mode, these buttons allow you to navigate programs in the "Favorite Channel List".

LIST (Program List)

- When watching a DTV program (with no menu on screen), press the "LIST" button. This sets your current viewing mode to "Normal". See "I-PLATE (INFO)" below for more information.

- The "Program List" will pop up. Scroll list using the directional buttons: "▲", "▼", "◄" and "►".

- Press the "ENTER" button to preview a channel. The "Program List" will stay on the screen. You can continue to preview other channels by scrolling the "Program List" and selecting a channel.

- Press the "EXIT" button to cancel the "Program List". You will see the "I-PLATE" which is described on page 38.

EPG (Electronic Program Guide)

- Press the "EPG" button on the remote control to call up the electronic program guide. **Please note there is neither video nor sound when you open the EPG window. If you are recording through SD OUTPUT, do not use the EPG function.**

- Use the directional buttons "▲", "▼", "◄" and "►" to select a program.

- Press the ENTER button to show the program details in a new popup window. Press the ENTER button again (for Current Program only) to exit EPG and watch that program immediately.

- Press the green button to set/unset a reminder on a program in the "Next Program" slot.

- If you set a reminder starting at the same time with a reminder you have set previously, you can choose to press "ENTER to replace" or "EXIT to cancel".

- When watching a program and the time left is only 15 seconds for a booked program to start, a reminder window will pop up. Press ENTER to switch to that channel or EXIT to cancel this reminder.
  Note: Reminder won't take effect when any menu page is on the screen.
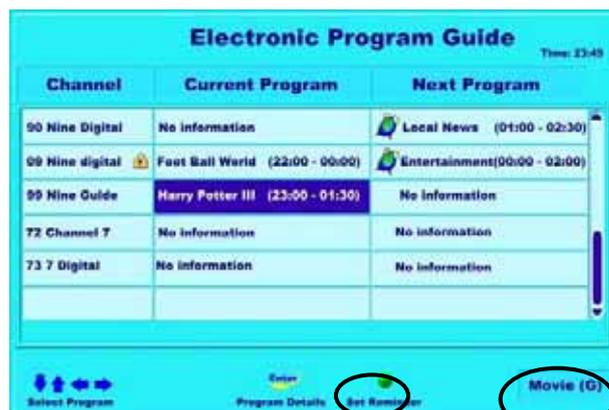
Green button

Genre window shows the genre of the highlighted event.
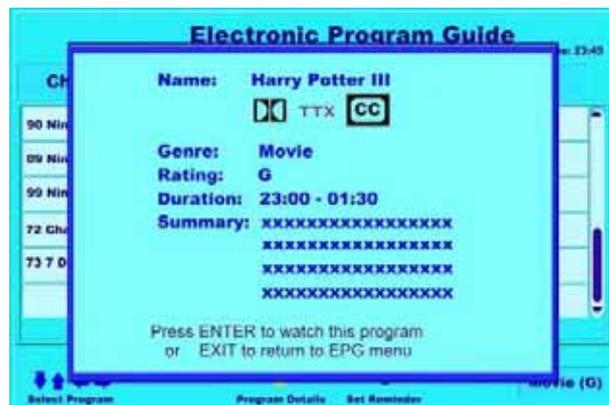
FAV. (Favorite Channel List)

- Press the "FAV." button on the remote control to call up the "Favorite Channel List". This sets your current viewing mode to "Favorite". See "I-PLATE (INFO)" on page 38 for more information on viewing mode.

- Use the "▲" and "▼" buttons to browse through the favorite list and highlight the program you want to watch.

- Press the "ENTER" button to confirm your choice.

- Press the "EXIT" button to cancel the list.

PIP (Picture-in-Picture)

- **PIP feature is applicable only when the video format is PAL (for MODE-Switch being set to YP$_B$P$_R$ only) or AUTO-PAL.**

- When watching a TV program (not in the main menu), press the "PIP" button on the remote control to bring up the PIP menu with a list of different programs. Please note that only programs on the same frequency as the program playing in the main window are displayed in the PIP menu list.

- Use the "▲" and "▼" buttons to browse through the list.

- Highlight a program and press the "ENTER" button to show "picture-in-picture" – two programs playing on the TV screen at the same time.

- Use the "PIP.POS" button to shift the locations of the PIP window.

- Use the "PIP.SWAP" button to swap programs between the main window and PIP window.

- Press the "EXIT" button to cancel the PIP menu.

- To close the PIP window, press the "PIP" button and select "PIP OFF".

Notes:

1. If "IN HD FORMAT" appears on the TV screen when you press "PIP" button, this means the PIP function is not permitted when the receiver is in HD video format ("1080i", "720p" or "576p").

2. If you use the PIP function to view programs for purposes other than personal viewing, you may infringe on the copyrights that the programs may be under.

TTX (Teletext)

- When I-PLATE indicates the presence of Teletext, you can press the "TTX" button on the remote control to view Teletext on the TV screen. If you are in those regions that support Fastext, you may also use the 4 colored buttons for Fastext. Note that the Fastext feature is not available in Australia.

- Use the "▲" or "▼" button to view the next or previous TTX page. Use the numeric buttons to input a TTX page number to view the page directly.

- To exit from Teletext display, you have 3 choices: press the (1)"TTX" button, or (2) "EXIT" button, or (3) "CH▲" or "CH▼" button.
  A message "Teletext/Closed Caption OFF" appears for 5 seconds.

Notes:

1. If "**TTX / CC ON**" appears on the TV screen when you press a button to activate a function, this means the function is not permitted in TTX mode.
2. To speed up Teletext browsing, pages that you have visited previously will be stored internally by the receiver. If you re-visit a page, you may see old contents being displayed initially but the page will be updated as soon as new information is received from the broadcaster.

CC (Closed Caption) (For Australia Only)

- Press the "CC" button on the remote control to call up the subtitle.

- If the current program you preview supports the Closed Caption, a message "CC ON" appears on the TV screen for 5 seconds, and you will see the subtitle appears on the TV.

- Otherwise if the current program you preview supports the Closed Caption, a message "CC is not available" appears on the TV screen for 5 seconds.

- To exit from Closed Caption display, you have 4 choices: press the (1) "CC" button, or (2)"TTX" button, or (3) "EXIT" button, or (4) "CH▲" or "CH▼" button.
  A message "Teletext/Closed Caption OFF" appears for 5 seconds.

Note: If "**TTX / CC ON**" appears on the TV screen when you press a button to activate a function, this means the function is not permitted in CC mode.

FREEZE

- Press the "FREEZE" button on the remote control to freeze the main window picture.

- You can press the "FREEZE" button again to release the picture.

Note: If you freeze a program for purposes other than personal viewing, you may infringe on the copyrights that the program may be under.

V.FORMAT (Video Format)

The "V.FORMAT" button on the remote control is used to change the video format setting among "PAL" (for MODE-Switch being set to YP_BP_R only), "AUTO", "1080i", "720p", and "576p".

- 1st button press displays the current video format

- Next press (within 5 seconds) sets the video format to the next format.

$$\text{PAL} \rightarrow \text{AUTO} \rightarrow \text{1080i} \rightarrow \text{720p} \rightarrow \text{576p}$$ (MODE-Switch is set to YP_BP_R)

$$\text{576p} \rightarrow \text{AUTO} \rightarrow \text{1080i} \rightarrow \text{720p}$$ (MODE-Switch is set to RGB)
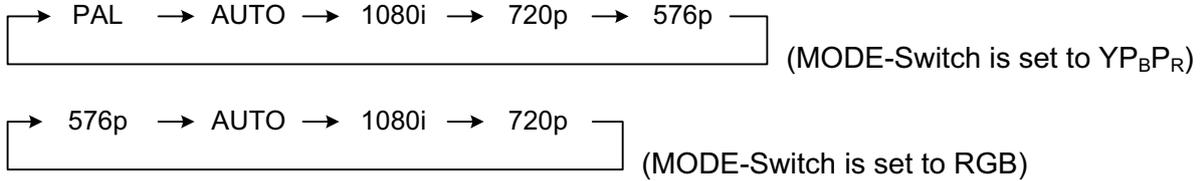
Note: For correct video format setting, please refer to System Setup Table on page 50.

A.RATIO (Aspect Ratio)

- Press the "A.RATIO" button on the remote control to show current aspect ratio.

- Within 5 seconds, pressing the "A.RATIO" button again will change the aspect ratio. Keep pressing this button will adjust the aspect ratio among "Pillarbox", "Letterbox" and "Crop".

- The recommended settings are shown in the table below:

	If you are watching a 4:3 program	If you are watching a 16:9 program
If you are using a 4:3 TV	Please use "4:3 (16:9 Crop)". If this setting is selected and your program is in 16:9, both sides of the picture will be cut off to fill your 4:3 TV.	Please use "4:3 (16:9 Letterbox)". This setting allows you to display a 16:9 program on a 4:3 TV screen in letterbox (with masking bars above and below the picture).
If you are using a 16:9 TV	Please use "16:9 (4:3 Pillarbox)". This setting allows you to display a 4:3 program on a 16:9 TV screen in pillarbox (with masking bars on both sides of the picture).	Please use "16:9 (4:3 Pillarbox)". This is the default aspect ratio setting for Australia.

Note: If, for purposes other than personal viewing, you display a program in an aspect ratio different from its original setting, you may infringe on the copyrights that the program may be under.

AUX

If your TV only has only one set of Component Video inputs, this AUX feature allows you to play your DVD movies via the "AUX INPUT" connectors located at the back of the HD-S25 receiver. (For connections to DVD player and TV, please refer to CONNECTION TO DVD PLAYER on page 16)

(a)   When the HD-S25 receiver is in ON mode:
*   Press "AUX" button on the remote control, the HD-S25 receiver displays the DVD program and the orange LED indicator (refer to page 7) is turned on
*   Pressing "AUX" button again, make the HD-S25 receiver displays off-air program and the orange LED indicator (refer to page 7) is turned off.

Notes
1.   When the receiver is in AUX mode, the buttons on the remote control and the front panel are **not** applicable except "AUX" and "STANDBY/ON".

2.   If "IN RGB MODE" appears on the TV screen when you press "AUX" button, this means the AUX function is not permitted when the receiver is connected to TV through RGB.

(b)   When the HD-S25 receiver is in STANDBY mode:
If the "AUX IN STANDBY" is set to "ENABLED" (refer to page 36), and the rear panel MODE-Switch (refer to page 8) is set to YP_BP_R before the receiver is switched to standby, the receiver is in AUX mode and the orange LED indicator (refer to page 7) is on.

SLEEP

The "SLEEP" button on the remote control is used to set the off-timer value.

To set the off-timer:
*   Press "SLEEP" button to start the timer at "OFF"
*   Next press of "SLEEP" (within 5 seconds) sets the receiver to the next off-timer. Press "SLEEP" button to set the desired off-timer value
*   The menu turns off after 5 seconds, and the timer starts

$$\text{OFF} \rightarrow 30 \text{ min} \rightarrow 60 \text{ min} \rightarrow 90 \text{ min} \rightarrow 120 \text{ min}$$
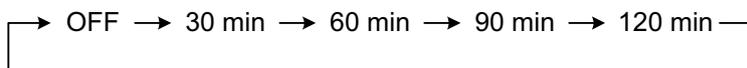
To check the remaining time:
*   Once the off-timer has been set, press "SLEEP" button once
*   Current remaining time is displayed on the screen, then turns off after 5 seconds

To change the off-timer:
*   Once the off-timer has been set, press "SLEEP" button once
*   Current remaining time is displayed on the screen. Before the OSD turns off, press "SLEEP" button again within 5 seconds, and the off-timer will be changed to the next bigger off-timer value.

    For example, if current remaining time is "28 min", press "SLEEP" button again, and off-timer will be changed to "30 min".

$$28 \text{ min}$$
$$\downarrow$$
$$\text{OFF} \rightarrow 30 \text{ min} \rightarrow 60 \text{ min} \rightarrow 90 \text{ min} \rightarrow 120 \text{ min}$$
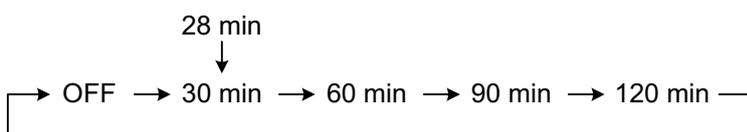
If current remaining time is "74 min", press "SLEEP" button again, and off-timer will change to "90 min".

```
                              74 min
                                ↓
  ┌─→ OFF → 30 min → 60 min → 90 min → 120 min ─┐
  │                                              │
  └──────────────────────────────────────────────┘
```

Note: When the sleep timer has only 1 minute left, an OSD "SLEEP 1 min." will automatically appear and stay on the screen. When the sleep timer counts down to 0, the receiver automatically shuts down by itself to standby mode.

AUDIO

- Press the AUDIO button on the remote control.
- Use the "▲" and "▼" buttons to select the preferred audio format present in the program you are watching.

RECALL

The "RECALL" button is used to toggle between present and previous programs

- In the case you are viewing Program A, and then you change to Program B. You can press the "RECALL" button on the remote control to return to previous program A.

- Press the "RECALL" button again, and the receiver will show Program B.

Appendices

1. **Australian DTV Channel Table**

2. **Troubleshooting**

3. **Parental Guidance Codes**

4. **Glossary**

5. **Technical Specifications**

APPENDIX 1 AUSTRALIAN DTV CHANNEL TABLE

The following is a list of DTV channels available in Australia. You can use it for "MANUAL SETUP": On the "MANUAL SETUP" page, select the VHF or UHF channel number and input the Middle Frequency based on "kHz". For instance, if you are in Sydney and want to manually scan "Digital 7", enter "MANUAL SETUP" page, select "Channel 6" and make sure the Frequency is "177500" kHz, then start scanning. Please refer to "MANUAL SETUP" on page 26 for details.

City	Identifier	Channel Number	Middle Frequency	Transmitter Location	Start Date
Adelaide	Digital 7	VHF 6	177.5MHz	Mt Lofty	1/1/2001
	Digital 9	VHF 8	191.625MHz	Mt Lofty	1/1/2001
	Digital 10	VHF 11	219.5MHz	Mt Lofty	1/1/2001
	Digital ABC	VHF 12	226.5MHz	Mt Lofty	1/1/2001
	Digital SBS	UHF 33	564.5MHz	Mt Lofty	1/1/2001
Brisbane	Digital 7	VHF 6	177.5MHz	Mt Coot-tha	1/1/2001
	Digital 9	VHF 8	191.625MHz	Mt Coot-tha	1/1/2001
	Digital 10	VHF 11	219.5MHz	Mt Coot-tha	1/1/2001
	Digital ABC	VHF 12	226.5MHz	Mt Coot-tha	1/1/2001
	Digital SBS	UHF 36	585.5MHz	Mt Coot-tha	1/1/2001
Melbourne	Digital 7	VHF 6	177.5MHz	Mt Dandenong	1/1/2001
	Digital 9	VHF 8	191.625MHz	Mt Dandenong	1/1/2001
	Digital 10	VHF 11	219.5MHz	Mt Dandenong	1/1/2001
	Digital ABC	VHF 12	226.5MHz	Mt Dandenong	1/1/2001
	Digital SBS	UHF 29	536.5MHz	Mt Dandenong	1/1/2001
Perth	Digital 7	VHF 6	177.5MHz	Carmel	1/1/2001
	Digital 9	VHF 8	191.625MHz	Carmel	1/1/2001
	Digital 10	VHF 11	219.5MHz	Carmel	1/1/2001
	Digital ABC	VHF 12	226.5MHz	Carmel	1/1/2001
	Digital SBS	UHF 29	536.5MHz	Bickley	1/1/2001
Sydney	Digital 7	VHF 6	177.5MHz	Artarmon	1/1/2001
	Digital 9	VHF 8	191.625MHz	Artarmon	1/1/2001
	Digital 10	VHF 11	219.5MHz	Artarmon	1/1/2001
	Digital ABC	VHF 12	226.5MHz	Artarmon	1/1/2001
	Digital SBS	UHF 34	571.5MHz	Gore Hill	1/1/2001

City	Identifier	Channel Number	Middle Frequency	Transmitter Location	Start Date
Batchelor	QQQ	UHF 50	683.5MHz		
	Digital SBS	UHF 53	704.5MHz	Mardango Cres	2005
	Digital ABC	UHF 56	725.5MHz	Mardango Cres	
	Digital 9	UHF 59	746.5MHz	Mardango Cres	
	Digital 7	UHF 62	767.5MHz	Mardango Cres	
	Digital IMPARJA	UHF 65	788.5MHz		
Canberra	Digital 10	VHF 6	177.5MHz	Black Mountain	30/6/2002
	Digital ABC	VHF 9A	205.5MHz	Black Mountain	30/6/2002
	Digital WIN	VHF 11	219.5MHz	Black Mountain	30/6/2002
	Digital PRIME	VHF 12	226.5MHz	Black Mountain	30/6/2002
	Digital SBS	UHF 30	543.5MHz	Black Mountain	30/6/2002
Darwin	Digital SBS	UHF 29	536.5MHz	Deloraine Rd	30/6/2002
	Digital ABC	UHF 30	543.5MHz	Deloraine Rd	30/6/2002
	Digital 9	UHF 31	550.5MHz	Deloraine Rd	30/6/2002
	Digital 7	UHF 32	557.5MHz	Deloraine Rd	30/6/2002
Newcastle	Digital NBN	UHF 36	585.5MHz	Mt Sugarloaf	30/6/2001
	Digital PRIME	UHF 53	704.5MHz	Mt Sugarloaf	30/6/2001
	Digital 10	UHF 51	690.5MHz	Mt Sugarloaf	30/6/2001
	Digital ABC	UHF 37	592.5MHz	Mt Sugarloaf	30/6/2001
	Digital SBS	UHF 38	599.5MHz	Mt Sugarloaf	30/6/2001
Wollongong[4]	Digital WIN	UHF 36	585.5MHz	Knights Hill	
	Digital 10	UHF 37	592.5MHz	Knights Hill	
	Digital PRIME	UHF 38	599.5MHz	Knights Hill	30/6/2002
	Digital ABC	UHF 51	690.5MHz	Knights Hill	30/6/2002
	Digital SBS	UHF 54	711.625MHz	Knights Hill	30/6/2002

Notes:

(a) The front panel "four-digit LED display" (page 7) shows you the logical channel number, which is different from the VHF/UHF channel number shown in the column "Channel Number" of this table.

(b) If you have trouble getting the signal of a DTV channel, please contact your local antenna installer for help.

(c) The channel table in this manual may not be up-to-date. To get the latest channel table, please contact your local dealer.

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[4] The local digital television services in Wollongong can be transmitted from Knights Hill, Brokers Nose or Stanwell Park. This table only lists the services from Knights Hill.

APPENDIX 2 TROUBLESHOOTING

Phenomenon	Solution
(1) The receiver front panel power indicator doesn't light up, and no message on the front panel	(a) Check the AC mains supply and make sure the power plug is well plugged into a stable power outlet. (b) Press the "STANDBY/ON" button on the front panel to see if the LED display is on. (c) Press the "STANDBY/ON" button on the remote control to see if the LED display is on.
(2) Message is shown on the front panel but no on-screen-display on TV screen	(a) Refer to Page 50 system setup table and check STB system set-up. Use the "V.FORMAT" on the remote control or on the front panel to switch the video format the appropriate one. (b) Make sure the connection between the receiver and TV matches the mode your TV should be set to. For instance, if you use a RCA cable you may choose external video input mode in TV. (c) Check whether the receiver is AUX mode. No on-screen-display when in AUX mode. (d) Check the brightness level of your TV.
(3) Poor picture quality	(a) Check the antenna and make sure it is aligned to the correct direction. Use the receiver's "MANUAL SETUP" page to check the signal's level and quality when aligning the antenna. (b) If you use any kind of amplifier to boost the signal level, please check whether it works well, and ask help from the antenna installer.
(4) No sound	(a) Check the receiver and your TV's volume are properly set and not in "Mute" mode. (b) Check the audio connectors are correctly and firmly connected. (c) Make sure the receiver is switched to the correct audio mode: Dolby® Digital or PCM. (d) Rescan this channel by using "MANUAL SETUP". (e) Switch to other channels for confirmation on audio.
(5) No picture	(a) Check whether the MODE-Switch is set to the correct mode. (b) Check whether your TV supports the receiver's current video format. Use the "V.FORMAT" button to switch the video format to the one supported by your TV (page 50). (c) Check the video cable(s) are correctly and firmly connected. (d) Rescan this channel by using "MANUAL SETUP". (e) Switch to other channels for confirmation on video. (f) Refer to table (page 50) and check STB system set-up. (g) Reduce RF amplifier gain if connected to RF booster.
(6) Wrong color on screen	(a) Check which connection you are using, RGB or YP_BP_R. Then check whether the MODE-Switch is set to the correct mode. (b) Check the video cable(s) are correctly and firmly connected.
(7) "V.FORMAT" button pressed but no OSD	(a) Check whether the MODE-Switch is set to YP_BP_R mode. (b) Press the "V.FORMAT" button to switch the video format to "PAL" and ensure the front panel displays "PAL". (c) Refer to page 50 system setup table and check STB system set-up.
(8) Not all channels are available after using "AUTO SCAN" when installing the receiver for the first time	Try "MANUAL SETUP" to scan these missing channels. This phenomenon is caused by unexpected frequency offset, for instance, in Sunshine Coast Australia, channels 47 and 65 are transmitted on 662.625 and 788.625MHz by 125kHz offset to the legitimate frequencies 662.5 and 788.5MHz. HD-S25 can receive these channels by "AUTO SCAN" most of the time, but we suggest that you use "MANUAL SETUP" when installing the receiver for the first time. Once the signal is picked up by the receiver, all the transmission parameters will be stored in the receiver's memory.

Phenomenon	Solution
(9) Not all channels are available after using "QUICK SCAN"	(a) Try "AUTO SCAN" to scan all the channels. (b) If you still cannot get some channels please use "MANUAL SETUP" to scan them one by one.
(10) Cannot lock signal by using "MANUAL SETUP"	(a) Check the frequency that you entered is exactly the centre frequency of the wanted channel. (b) Please refer to solutions in Phenomenon (3) above.
(11) No Teletext / Closed Caption	Make sure the channel that you are watching carries Teletext / Closed Caption information from I-PLATE.
(12) No picture when the receiver is set to "AUX" mode	(a) Make sure your TV's HD input supports your DVD output mode. (b) Make sure the MODE-Switch is set to YP_BP_R mode (c) Check the receiver's connection to DVD player (page 16). (d) Check the receiver's connection to TV (refer to YP_BP_R connection on page 14). (e) Check the video cable(s) are correctly and firmly connected.
(14) Cannot receive channels after moving the receiver between cities (for instance from Melbourne to Sydney)	Please refer to page 27 to reset data.
(15) The remote control does not work properly	(a) Point the remote control at the remote sensor of the receiver. (b) Operate the remote control within about 5m. (c) Replace the batteries with new ones.
(16) "MENU" button is pressed but no menu is shown on the screen	(a) If you connect the receiver using COMPOSITE output, use the "V.FORMAT" on the remote control or on the front panel to switch the video format to "PAL" (for MODE-Switch being set to YP_BP_R only). (b) Make sure the connection between the receiver and TV matches the mode your TV should be set to. For instance, if you use a RCA cable you may choose external video input mode in TV. (c) Check the brightness level of your TV. (d) Refer to page 50 system setup table and check STB system set-up.

On Screen Message

Message	Solution
(1) Bad Signal	(a) Check the antenna is connected correctly and firmly to the tuner input (ANT.IN) of the receiver. (b) Refer to solutions for Phenomenon (3) on page 48.
(2) Database is Empty	No channel data available in the box. Please refer to page 25 for reinstallation.
(3) Incorrect Password	Please input the correct password.
(4) Non Support HD Format	The HDTV digital channel cannot be shown on the small PIP window.
(5) Program is Locked by Guard Rate	Please input the correct password or change parental-rate (see page 34) to view the program.
(6) Program is Under Guard	Please input the correct password or change lock setting in menu to view the program.
(7) Program Rate is over Guard Rate [xxx]	Please input the correct password or change parental-rate (see page 34) to view the program.
(8) Weak Signal	Make sure antenna or signal input cable is connected correctly.

System Setup Table

1. MODE-Switch in Rear Panel is set to YP$_B$P$_R$

Connection / STB Video Format		PAL	AUTO	1080i	720p	576p
SD ⊖►	Connection to SDTV: Composite, S-Video	STB displays in PAL.	STB displays in PAL. No OSD can be displayed except AUTO-PAL.	STB displays in PAL. No OSD can be displayed.	STB displays in PAL. No OSD can be displayed.	STB displays in PAL. No OSD can be displayed.
HD ⊖►	Connection to SDTV: YP$_B$P$_R$	STB displays in PAL.	STB displays in PAL on TV if the broadcasted program is in PAL. **No display** if the broadcasted program is in 1080i, 720p or 576p.	**No display.**	**No display.**	**No display.**
	Connection to HD-Ready TV: YP$_B$P$_R$	STB displays in PAL.	STB displays in the same format as sent by the broadcaster.	STB displays in 1080i.	STB displays in 720p.	STB displays in 576p.
	Connection to HD-Ready TV: RGB, RGBHV	**No display or wrong color.**	**No display or wrong color.**	**No display or wrong color.**	**No display or wrong color.**	**No display or wrong color.**

2. MODE-Switch in Rear Panel is set to RGB

Connection / STB Video Format		576p	AUTO	1080i	720p
SD ⊖►	Connection to SDTV: Composite, S-Video	STB displays in PAL. **No OSD can be displayed.**	STB displays in PAL. **No OSD can be displayed except AUTO-PAL.**	STB displays in PAL. **No OSD can be displayed.**	STB displays in PAL. **No OSD can be displayed.**
HD ⊖►	Connection to SDTV: YP$_B$P$_R$	**No display.**	**No display.**	**No display.**	**No display.**
	Connection to HD-Ready TV: YP$_B$P$_R$	**No display.**	**No display.**	**No display.**	**No display.**
	Connection to HD-Ready TV: RGB, RGBHV	STB displays in 576p.	STB displays in the same format as sent by the broadcaster.	STB displays in 1080i.	STB displays in 720p.

AUSTRALIAN PARENTAL GUIDANCE CODES
(Normative)

Recommended on-screen-display for parental guidance codes transmitted within DVB-SI EIT information using the DVB parental_rating_descriptor.

Transmitted rating hex code	Australian parental guide code	On-screen display	Receiver Menu Set-up and Suggested OSD Wording for Setting Blocking (Restriction of access)							
			Block All	Block G and above (optional)	Block PG and above	Block M and above	Block MA and above	Block AV and above	Block R and above	No Block
			Resultant receiver action to received hex code ✓ is show program — X is block until PIN entered							
0×00	Not Classified	-	X	✓	✓	✓	✓	✓	✓	✓
0×01		-	X	✓	✓	✓	✓	✓	✓	✓
0×02	P Pre school	P	X	✓	✓	✓	✓	✓	✓	✓
0×03		P	X	✓	✓	✓	✓	✓	✓	✓
0×04	C Children's	C	X	✓	✓	✓	✓	✓	✓	✓
0×05		C	X	✓	✓	✓	✓	✓	✓	✓
0×06	G General	G	X	X	✓	✓	✓	✓	✓	✓
0×07		G	X	X	✓	✓	✓	✓	✓	✓
0×08	PG Parental Guidance Recommended	PG	X	X	X	✓	✓	✓	✓	✓
0×09		PG	X	X	X	✓	✓	✓	✓	✓
0×0A	M Mature Audience 15+	M	X	X	X	X	✓	✓	✓	✓
0×0B		M	X	X	X	X	✓	✓	✓	✓
0×0C	MA Mature Adult Audience 15+	MA	X	X	X	X	X	✓	✓	✓
0×0D		MA	X	X	X	X	X	✓	✓	✓
0×0E	AV Adult Audience, Strong violence 15+	AV	X	X	X	X	X	X	✓	✓
0×0F	R Restricted 18+	R	X	X	X	X	X	X	X	✓

APPENDIX 4 GLOSSARY

* **Aspect Ratio:** It is the ratio of the width of the screen to the height. The two relevant digital TV formats are 16:9 (wide-screen) or 4:3 (the traditional screen ratio). 16:9 is more ergonomically suitable for the human eye.

* **Bandwidth:** It is the frequency range that allows for carrying a certain radio signal.

* **Coaxial Cable:** A type of cable used to transmit high frequency signals e.g. from the VHF/UHF antenna to the terrestrial Digital TV receiver.

* **Composite Video:** There are three elements of the video system: First - the "active video" which means the picture to be displayed on the screen and its associated colors; second - the "sync" decides where to place each pixel on the screen; third - the "blanking" tells the display when to turn off the electron beam so no retrace across the screen. These three elements combined together is called "composite video" when connecting to a display through connectors.

* **Crop:** A wide-screen 16:9 picture that is cut on both left and right to fit a 4:3 TV screen.

* **Dolby® Digital:** Dolby® Digital is a method of transmitting and storing multi-channel soundtracks via newer digital media such as DVD, digital cable, digital TV (DTV), and satellite transmissions.

* **DVB**[5]**:** Abbreviation for "Digital Video Broadcasting". An international organization created in October 1993, whose primary objective is to achieve a common framework for all technical platforms of digital broadcasting systems including DVB-C (cable), DVB-S (satellite) and DVB-T (terrestrial), etc**.**

* **EPG:** Stands for "Electronic Program Guide". It is an application that allows viewers to navigate through the large number of channels offered by digital TV broadcaster and selects the desired services.

* **Frequency:** The property of a signal measured in cycles per second (=Hertz).

* **Letterbox:** The picture with aspect ratio 16:9 in a 4:3 TV screen with blank lines on top and bottom. It is the means to watch a wide screen TV program on a 4:3 TV screen.

* **Megahertz (MHz):** Millions of cycles per second, which describes frequencies of radio wave or electric current.

* **Mini D-Sub 15-pin Cable:** A type of video cable used to carry analogue RGB video signals.

* **OSD**: Stands for "On Screen Display". It provides clearer menu functions by using the TV or monitor to display the menu while the controls are on the remote control.

* **PAL:** Stands for "Phase Alternating Line", the European video standard that has the image format of 4 by 3, 625 horizontal lines, 50Hz field frequency and a total 8 MHz of video channel width.

* **Pillarbox:** The picture with aspect ratio 4:3 in a 16:9 TV screen with black masking bars on the left and right. It is a way to watch a standard 4:3 picture on a wide-screen TV.

* **RF Channel:** Radio Frequency Channel, for instance channel 28 for SBS Network in analogue TV transmission. However, in digital TV, one RF channel may carry 4 to 6 sub-channels like SBS HD and SBS Digital.

* **RGB:** Stands for Red, Green and Blue. RGB video is the highest quality video currently used in the AV industry.

* **S-Video (also called Y/C):** The standard for the way a video signal is carried on the cable. Y

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[5] Trade Mark of the DVB Digital Video Broadcasting Project (1991 to 1996)
Product registration identification reference number: 3025.

represents brightness and C represents color. S-Video cables have separate wires for the color and brightness so it offers a better picture quality than the composite video.

* **VHF:** Stands for "Very High Frequency", starts from 30 to 300MHz corresponding to channels 2-12, including Bands I, II and III.

* **Video format:** It is the picture resolution of the video defined as number of pixels per line x number of horizontal lines, interlaced/progressive.
For Standard Definition (SD), the picture resolution is 720 pixels $\times$ 576 lines, interlaced (576i).
For High Definition (HD), the minimum picture resolution is 720 $\times$ 576, progressive (576p)[6].
Other HD formats are 1920 $\times$ 1080i and 1280 $\times$ 720p.

* **UHF:** Stands for "Ultra High Frequency", starts from 300 to 3000MHz corresponding to channels 13-69, including Bands IV and V.

* **Y/P$_B$/P$_R$:** Color difference signal, which is better than S-Video and Composite Video in terms of picture quality. Y, P$_B$ and P$_R$ are the standard video connectors found in HDTVs.

APPENDICES

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[6] 576p is classified as HD format in Australia. However, it may be classified as SD format in some other regions.

APPENDIX 5 TECHNICAL SPECIFICATIONS

System

Compliant Standard	DVB-T
Video Decoding	MP @ ML & MP @ HL
Audio Decoding	Dolby® Digital, MPEG (I & II)
Audio Sampling Rate	32, 44.1, 48 kHz

Terrestrial Tuner / Demodulator

Frequency	51~858 MHz
Loop Through	51~858 MHz
Bandwidth	6, 7, 8 MHz
Demodulator	COFDM
FFT Mode	2K, 8K
Constellation	QPSK, 16QAM, 64 QAM
Guard Interval	1/4, 1/8, 1/16, 1/32
Inner Coding Rate	1/2, 2/3, 3/4, 5/6, 7/8

Video Output

Format	1920 × 1080i, 1280 × 720p, 720 × 576p, PAL (720 × 576i)
Vertical Scan Rate	50 Hz
Aspect Ratio	4:3, 16:9
Digital Audio Output Mode	Decompressed PCM, Compressed Dolby Digital

Front Panel

IR Receiver	Yes
Function Control	9 Keys
Channel Display	4 Digits / 7-segment display

Rear Panel

Tuner Input	1 × IEC-Female
Serial Port	1 × RS-232 (for external control and software upgrading)
Video Output Mode Switch	1
RGBHV Output Port	5 × RCA, 1 x Mini D-Sub 15-pin
Y/P_B/P_R Video Output Port	3 × RCA (Shared with RGB in RGBHV Output Port)
Digital Audio Output Port	1 × S/PDIF Optical, 1 × S/PDIF Coaxial
S-Video Output Port	1 × Mini Din 4-pin
Video Output Port	1 × RCA
Stereo Audio Output Port	4 × RCA
Y/P_B/P_R Video Input Port	3 × RCA
Stereo Audio Input Port	2 × RCA

Power Supply

Input Voltage	100~240 V_{AC}, 50/60 Hz
Consumption (max.)	20 W

Dimension

Size (W × D × H)	360 × 250 × 70 mm
Weight	2.4 kg (Unpacked)

Environmental Data

Operating Temperature	5°~ 40°C
Storage Temperature	-40°~ 65°C

Note: Specifications are subject to change without notice.

ACCESSORIES

- Remote Control (CT-90194).………………………… × 1
- Audio/Video cable.………………………………….. × 1
- Component video cable (Y/P$_B$/P$_R$).………………….. × 1
- Power cord.…………………………………………... × 1
- R03 (AAA size) battery.……………………………… × 2
- Owner's Manual.…………………………………….. × 1

Exemptions

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